

The Road Inventory of Las Vegas National Wildlife Refuge

Las Vegas, NM



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Federal Highway Administration
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TABLE OF CONTENTS

<u>SECTION</u>		<u>PAGE</u>
I.	<u>INTRODUCTION</u>	1 - 1
II.	<u>SUMMARY INFORMATION</u> Summaries by Condition, Surface Type and Functional Class	2 - 1
III.	<u>REFUGE ROUTE LOCATION MAPS</u>	3 - 1
IV.	<u>ROUTE IDENTIFICATION LIST</u>	4 - 1
V.	<u>ROUTE CONDITION RATING SHEETS</u>	5 - 1
VI.	<u>PARKING LOT CONDITION RATING SHEETS</u>	6 - 1
VII.	<u>BRIDGE INVENTORY INFORMATION</u>	7 - 1
VIII.	<u>PHOTOGRAPHIC SHEETS</u>	8 - 1
IX.	<u>ACCIDENT SUMMARY</u>	9 - 1
	<u>APPENDIX</u>	
	Functional Classification Table	i
	Description of Rating System	ii

INTRODUCTION

The Transportation Equity Act for the 21st Century (Public Law 105-178) created the Refuge Roads Program. Refuge roads are those public roads that provide access to or within a unit of the National Wildlife Refuge System and for which title and maintenance responsibility is vested in the United States Government. Funds from the Highway Trust Fund are available for refuge roads and can be used by the station to pay the cost of:

- (a) Maintenance and improvements of refuge roads.
- (b) Maintenance and improvements of:
 - (1) Adjacent vehicle parking areas
 - (2) Provision for pedestrians and bicycles and
 - (3) Construction and reconstruction of roadside rest areas that are located in or adjacent to wildlife refuges
- (c) Administrative costs associated with such maintenance and improvements.

The funds available for refuge roads are to be disbursed based on the relative needs of the various refuges in the National Wildlife Refuge System, and taking into consideration:

- (a) The comprehensive conservation plan for each refuge;
- (b) The need for access as identified through land use planning; and
- (c) The impact of land use planning on existing transportation facilities.

To determine the relative needs of the U.S. Fish and Wildlife Service, the Federal Highway Administration (FHWA) was asked to inventory all public access roads and parking lots and provide a condition assessment of each. In 2008 the inventory was expanded to include administrative (service use only) roads and parking lots. An FHWA representative meets with refuge personnel to identify route segments and assign route numbers and functional classifications (See Appendix) for each route. All roads and parking lots are mapped using Trimble GPS units and visually assessed for condition using the RSL method of evaluation developed at Utah State University (See Appendix). Culverts, Gates, Guardrails and Low Water Crossings are also mapped and inspected for any obvious defects.

An estimate is provided, in year 2008 dollars, based on the condition determined by the rating system. Estimates are based upon data and location factors from the 2008 RS Means Heavy Construction Cost Data 22nd Annual Edition. Cost estimates should be evaluated on a case-by-case basis when being used for programming purposes.

Native Surfaced roads and parking lots already inventoried will not be re-inventoried and will not appear individually in report chapters 5, 6 and 8. Mileages and areas of native surfaced roads and parking lots will still appear in all summaries in the report and will remain in the road inventory database. In addition to this report, the FHWA will furnish the condition ratings of each route and segment to the Fish and Wildlife Service in a Microsoft Access database so the data can be included in their Real Property Inventory.

Las Vegas

Summaries

Route Miles and Percentages by Functional Class and Condition Condition Rating (Based on RSL)*

F.C.	Excellent		Good		Fair		Poor		Failed		Total
	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles
I	0.00	0.0%	0.00	0.0%	0.19	100.0%	0.00	0.0%	0.00	0.0%	0.19
II	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
III	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
IV	1.00	79.6%	0.26	20.4%	0.00	0.0%	0.00	0.0%	0.00	0.0%	1.26
V	0.35	1.3%	19.42	71.4%	7.41	27.3%	0.00	0.0%	0.00	0.0%	27.19
Total	1.35	4.7%	19.68	68.7%	7.61	26.6%	0.00	0.0%	0.00	0.0%	28.64

*For a description of condition ratings for the various surface types see the Appendix.

Route Miles and Percentages by Surface Type and Condition Paved Condition Rating [Condition(RSL)]

Surface Type	Excellent		Good		Fair		Poor		Failed		Total
	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles
AS	0.00	0.0%	0.00	0.0%	0.19	100.0%	0.00	0.0%	0.00	0.0%	0.19
CO	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
Total	0.00	0.0%	0.00	0.0%	0.19	100.0%	0.00	0.0%	0.00	0.0%	0.19

Unpaved Condition Rating [Condition(RSL)]

Surface Type	Excellent		Good		Fair		Poor		Failed		Total
	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles
GR	1.35	10.1%	11.19	83.9%	0.80	6.0%	0.00	0.0%	0.00	0.0%	13.35
NA	0.00	0.0%	5.30	70.8%	2.19	29.2%	0.00	0.0%	0.00	0.0%	7.49
PR	0.00	0.0%	3.18	41.9%	4.42	58.1%	0.00	0.0%	0.00	0.0%	7.60
Total	1.35	4.8%	19.68	69.2%	7.41	26.1%	0.00	0.0%	0.00	0.0%	28.44

Square Footage (Parking Areas) Condition Rating

Surface Type	Excellent		Good		Fair		Poor		Failed		Total
	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft
AS	3,611	13.3%	23,484	86.7%	0	0.0%	0	0.0%	0	0.0%	27,095
CO	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
GR	0	0.0%	59,705	81.7%	13,406	18.3%	0	0.0%	0	0.0%	73,111
NA	0	0.0%	0	0.0%	7,126	100.0%	0	0.0%	0	0.0%	7,126
PR	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	3,611	3.0%	83,189	78.0%	20,532	19.0%	0	0.0%	0	0.0%	107,332

Las Vegas

Summaries

Route Miles and Percentages by Use Type and Condition

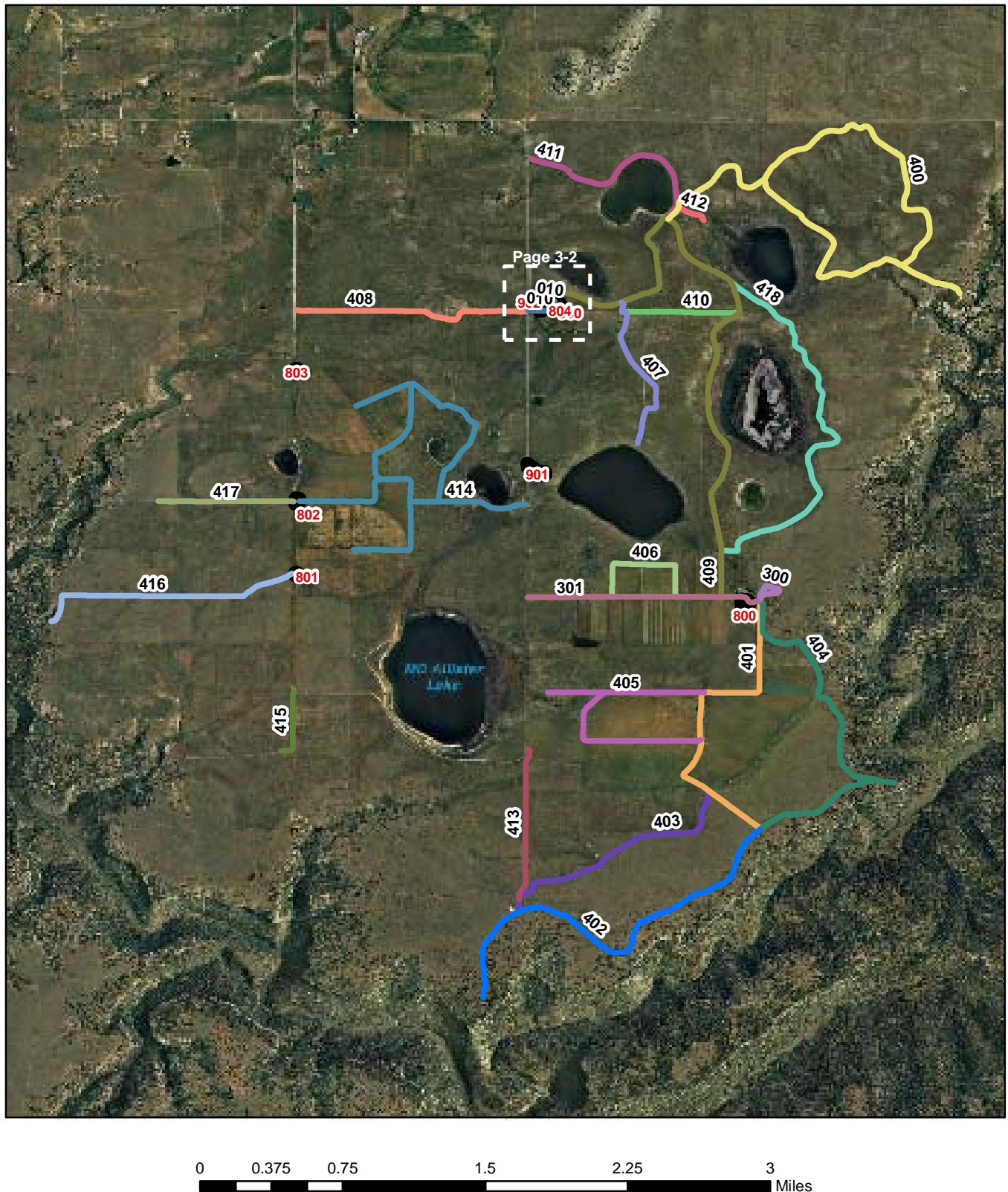
Road Condition Rating: Public/Administrative Use

Use Type	Excellent		Good		Fair		Poor		Failed		Total
	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles
Admin	1.35	4.8%	19.68	69.2%	7.41	26.1%	0.00	0.0%	0.00	0.0%	28.44
Public	0.00	0.0%	0.00	0.0%	0.19	100.0%	0.00	0.0%	0.00	0.0%	0.19
Total	1.35	4.7%	19.68	68.7%	7.61	26.6%	0.00	0.0%	0.00	0.0%	28.60

Parking Condition Rating: Public/Administrative Use

Use Type	Excellent		Good		Fair		Poor		Failed		Total
	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft
Admin	3,611	6.0%	35,896	59.8%	20,532	34.2%	0	0.0%	0	0.0%	60,039
Public	0	0.0%	47,293	100.0%	0	0.0%	0	0.0%	0	0.0%	47,293
Total	3,611	3.4%	83,189	77.5%	20,532	19.1%	0	0.0%	0	0.0%	107,332

Las Vegas ROUTE LOCATION MAP



Las Vegas ROUTE LOCATION MAP



Las Vegas - 22580 - ROUTE IDENTIFICATION LIST (NUMERIC)

Shading Color Key:

White = Paved Routes

Yellow = Unpaved Routes

RTE #	Asset Number	ROUTE NAME	RTE MI	ROUTE DESCRIPTION	PAVED MI	UN-PAVED MI	LANES	FC
010	10010240	VC Entrance Road	0.19	From Highway 281 to Visitor Center Parking (Rte 900)	0.19	0.00	2	1
300	10010103	Boneyard Access Road	0.26	From RU 5 Access Road (Rte 401) to end of loop	0.00	0.26	1	4
301	10010113	Shop Access Road	1.00	From Highway 281 to Shop Area Parking (Rte 800)	0.00	1.00	2	4
400	10010103	Clodfelter/RU1 Ponds Access Road	3.47	From November Sunday Route (Rte 409) to end of loop	0.00	3.47	1	5
401		RU 5 Access Road	1.62	From Shop Area Road (Rte 301) to Gallinas Canyon Overlook South/RU 5 Road(Rte 402)	0.00	0.31	1	5
401	10010104	RU 5 Access Road	1.62	From Shop Area Road (Rte 301) to Gallinas Canyon Overlook South/RU 5 Road(Rte 402)	0.00	0.31	1	5
401		RU 5 Access Road	1.62	From Shop Area Road (Rte 301) to Gallinas Canyon Overlook South/RU 5 Road(Rte 402)	0.00	1.31	1	5
401	10010104	RU 5 Access Road	1.62	From Shop Area Road (Rte 301) to Gallinas Canyon Overlook South/RU 5 Road(Rte 402)	0.00	1.31	1	5
402		Gallinas Canyon Overlook South/RU 5 Road	1.99	From RU 5 Access Road (Rte 401) to end of route	0.00	1.99	1	5
403		Gallinas Canyon Overlook North/RU 5 Road	1.18	From Gallinas Canyon Overlook South/RU 5 Road (Rte 402) to RU 5 Access Road (Rte 401)	0.00	1.18	1	5
404		Vegosa Canyon Access/RU 4A Road	1.91	From RU 5 Access Road (Rte 401) to Boneyard Access Road (Rte 300)	0.00	1.91	1	5
405	10010103	East Pivot Access/RU 4 Road	1.46	From RU 5 Access Road (Rte 401) to end of route at RU 5 Access Road (Rte 401)	0.00	1.46	1	5
406	10010103	Shop/Farm Field Access Road	0.61	From Shop Access Road (Rte 301) to end at Shop Access Road (Rte 301)	0.00	0.61	1	5
407		Crane Lake Access Road	0.84	From Shop Access Road (Rte 301) to end of route	0.00	0.84	1	5
408	10010103	North RU 9 Access Road	1.02	From Highway 281 to end of route at gate	0.00	1.02	1	5
409	10010104	November Sunday Route	3.19	From Visitor Center Access Road (Rte 010) to Shop Access Road (Rte 300)	0.00	3.19	1	5
410	10010104	Fenceline Road	0.50	From November Sunday Route (Rte 409) to Crane Access Road (Rte 407)	0.00	0.50	1	5
411	10010103	North Bentley Road	1.01	From November Sunday Route (Route 409) to Highway 281	0.00	1.01	1	5

Las Vegas - 22580 - ROUTE IDENTIFICATION LIST (NUMERIC)

Shading Color Key:

White = Paved Routes
Yellow = Unpaved Routes

RTE #	Asset Number	ROUTE NAME	RTE MI	ROUTE DESCRIPTION	PAVED MI	UN-PAVED MI	LANES	FC
412	10010103	Bentley Flume Road	0.13	From November Sunday Route (Route 409) to end of route at WCS	0.00	0.13	1	5
413	10010104	McAllister Lake/RU5 Road	0.80	From Highway 281 to Gallinas Canyon Overlook North/RU5 Road (Rte 403)	0.00	0.80	1	5
414	10010103	Middle Marsh Road	3.36	From Highway 281 to Hwy 281	0.00	0.83	1	5
414	10010104	Middle Marsh Road	3.36	From Highway 281 to Hwy 281	0.00	0.83	1	5
414	10010103	Middle Marsh Road	3.36	From Highway 281 to Hwy 281	0.00	2.53	1	5
414	10010104	Middle Marsh Road	3.36	From Highway 281 to Hwy 281	0.00	2.53	1	5
415	10010104	Gallinas Nature Trail Access Road	0.35	From Highway 281 to end of route at gate	0.00	0.35	1	5
416		Gallinas Canyon Access/RU 7 Road	1.18	From Highway 281 to end of route at canyon	0.00	1.18	1	5
417	10010103	Estrada Access/RU 7 Road	0.58	From Highway 281 to western boundary fence	0.00	0.58	1	5
418	10010103	East Lateral Access Road	1.97	From November Sunday Route (Rte 409) to November Sunday Route (Route 409)	0.00	1.97	1	5

Las Vegas - 22580 - ROUTE IDENTIFICATION LIST (PARKING)

Shading Color Key:

White = Paved Parking Lots

Green = Unpaved Parking Lots

RTE #	Asset Number	ROUTE NAME	RTE SQFT	ROUTE DESCRIPTION	PAVED SQFT	UNPAVED SQFT
800		Shop Area Parking	35,896		0.00	35,896
801		RU 8 Hunter Parking	3,198		0.00	3,198
802		Middle Marsh Road Hunter/RU 8 Parking	13,406		0.00	13,406
803		RU 8 North Parking	3,928		0.00	3,928
804		Headquarters Employee Parking	3,611		3,611.00	0
900	10059269	Visitor Center Parking	12,075		12,075.00	0
901	10059273	Crane Overlook Parking Area	23,809		0.00	23,809
902	10059269	Visitor Center Overflow Parking	11,409		11,409.00	0

CHANGES TO THE FISH AND WILDLIFE SERVICE ROAD INVENTORY REPORT

Las Vegas

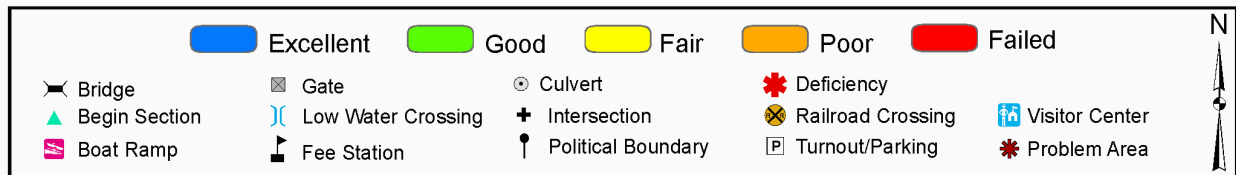
Routes added to previous inventory*:		
Rte #	Rte Name	Reason for Addition
300	Boneyard Access Road	Administrative Route
301	Shop Access Road	Administrative Route
400	Clodfelter/RU1 Ponds Access Road	Administrative Route
401	RU 5 Access Road	Administrative Route
402	Gallinas Canyon Overlook South/RU 5 Road	Administrative Route
403	Gallinas Canyon Overlook North/RU 5 Road	Administrative Route
404	Vegosa Canyon Access/RU 4A Road	Administrative Route
405	East Pivot Access/RU 4 Road	Administrative Route
406	Shop/Farm Field Access Road	Administrative Route
407	Crane Lake Access Road	Administrative Route
408	North RU 9 Access Road	Administrative Route
409	November Sunday Route	Administrative Route
410	Fenceline Road	Administrative Route
411	North Bentley Road	Administrative Route
412	Bentley Flume Road	Administrative Route
413	McAllister Lake/RU5 Road	Administrative Route
414	Middle Marsh Road	Administrative Route
415	Gallinas Nature Trail Access Road	Administrative Route
416	Gallinas Canyon Access/RU 7 Road	Administrative Route
417	Estrada Access/RU 7 Road	Administrative Route
418	East Lateral Access Road	Administrative Route
800	Shop Area Parking	Administrative Route
801	RU 8 Hunter Parking	Administrative Route
802	Middle Marsh Road Hunter/RU 8 Parking	Administrative Route
803	RU 8 North Parking	Administrative Route
804	Headquarters Employee Parking	Administrative Route

Routes removed from previous inventory:		
Rte #	Rte Name	Reason for Removal

Routes modified from previous inventory:			
Rte #	Rte Name	Type of Modification	Description of Modification
010	VC Entrance Road	Geometry/Length change/surface change	
901	Crane Overlook Parking Area	Other	
902	Visitor Center Overflow Parking	Other	

Comments:

010- Changed from gravel to asphalt / length change
901- Changed location
902- Changed location and new construction

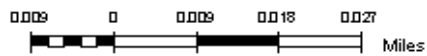
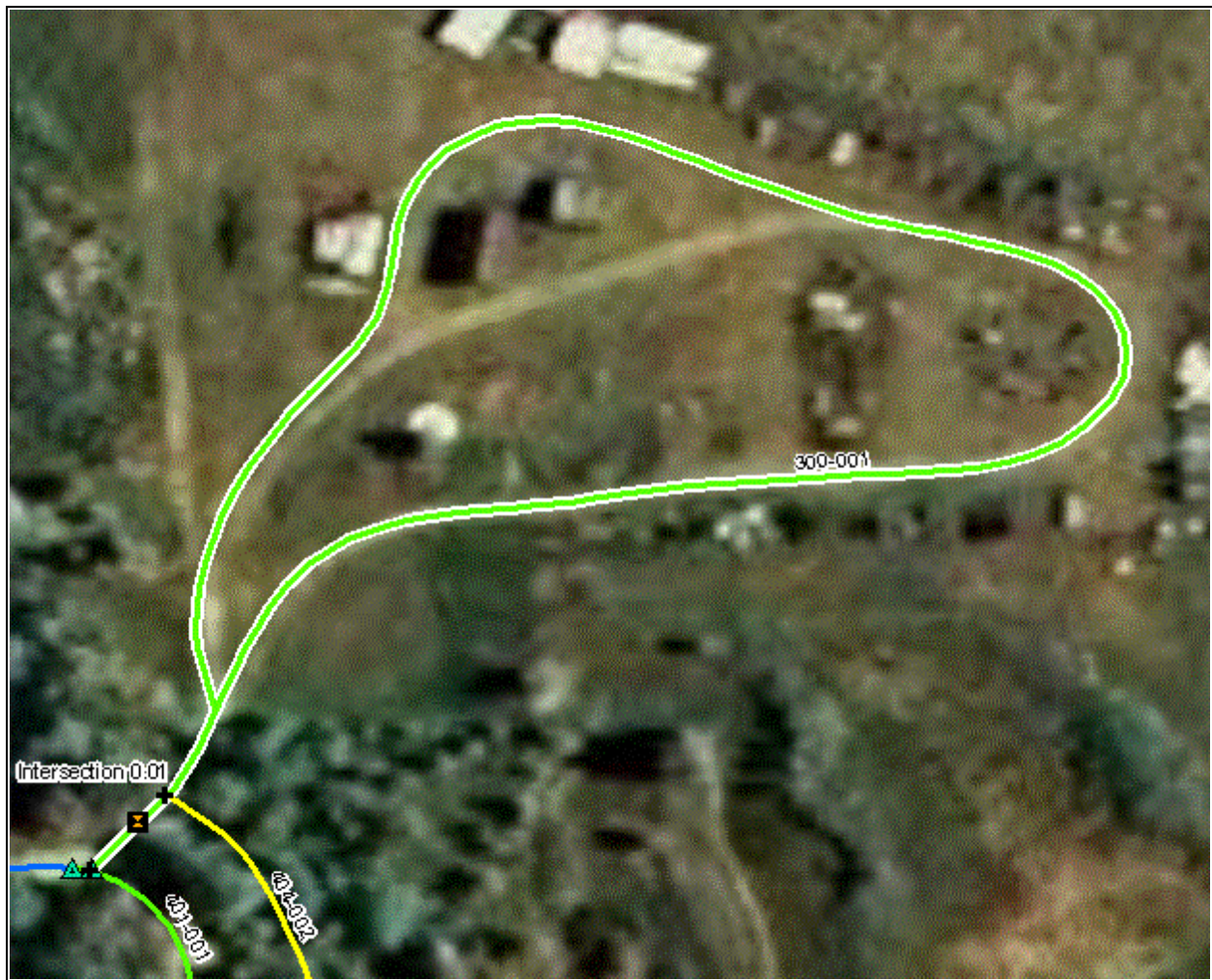


Route: 010 VC Entrance Road

Total Route Length: **0.19 Miles**

Route Description: From Highway 281 to Visitor Center Parking (Rte 900)

Asset Number	10010240	10010240
Section Number	001	002
Section Length (miles)	0.13	0.06
Inspection Date	10/20/2009	10/19/2009
Section Information		
Surface Type	Asphalt	Asphalt
Number of Lanes	2	1
Roadway Width (feet)	16.00	14.00
Roadway Condition Information		
Condition	Fair	Fair
Remaining Service Life (years)	8	8
Cost Estimate	14,600	6,500
CRV	161,800.00	72,500.00

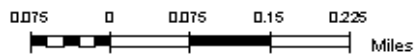


Route: 300 Boneyard Access Road

Total Route Length: **0.26 Miles**

Route Description: From RU 5 Access Road (Rte 401) to end of loop

Asset Number	10010103
Section Number	001
Section Length (miles)	0.26
Inspection Date	10/19/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	8.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	400
CRV	92,400.00

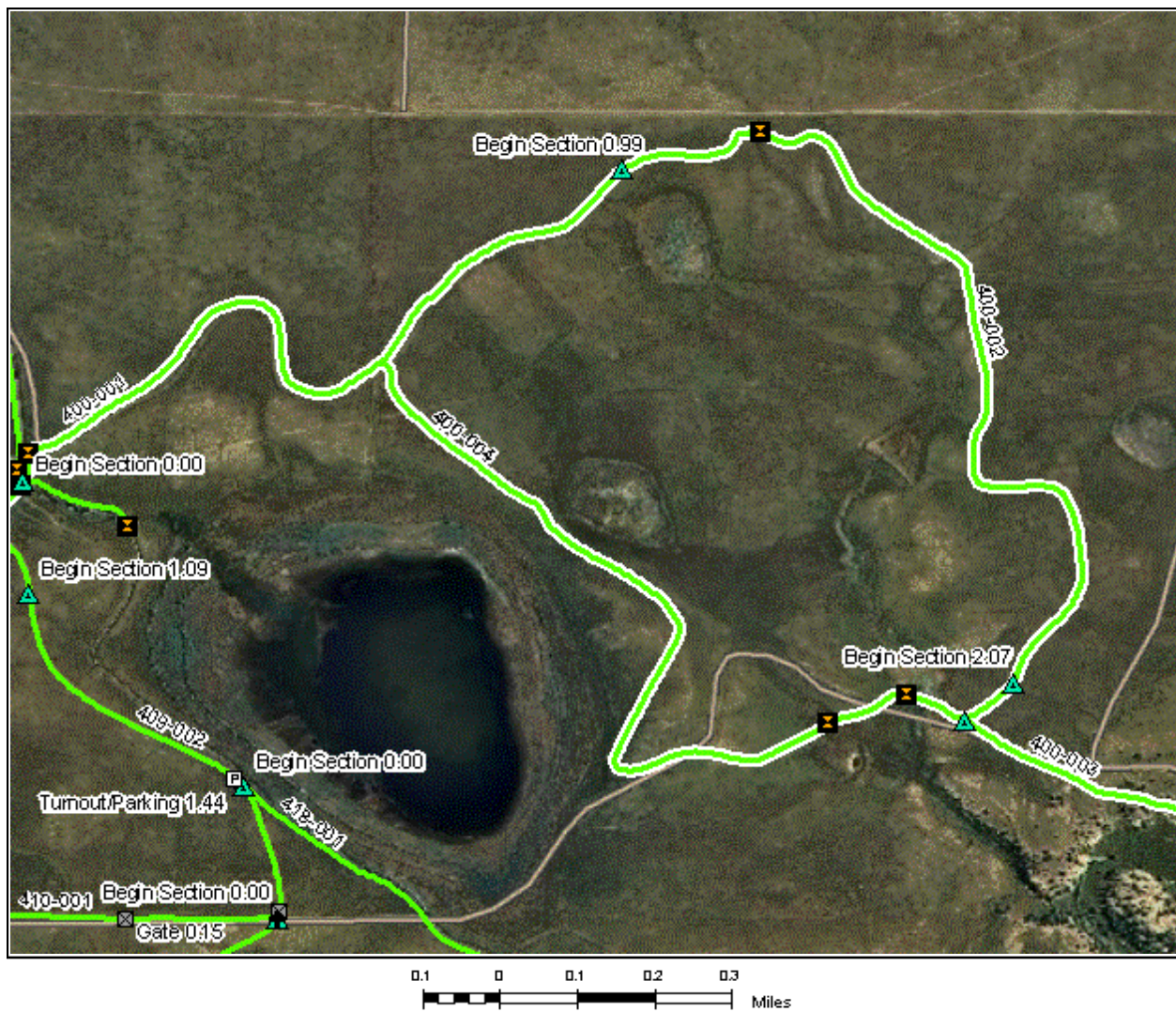


Route: 301 Shop Access Road

Total Route Length: **1.00 Miles**

Route Description: From Highway 281 to Shop Area Parking (Rte 800)

Asset Number	10010113
Section Number	001
Section Length (miles)	1.00
Inspection Date	10/19/2009
Section Information	
Surface Type	Gravel
Number of Lanes	2
Roadway Width (feet)	18.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	8
Cost Estimate	0
CRV	695,500.00

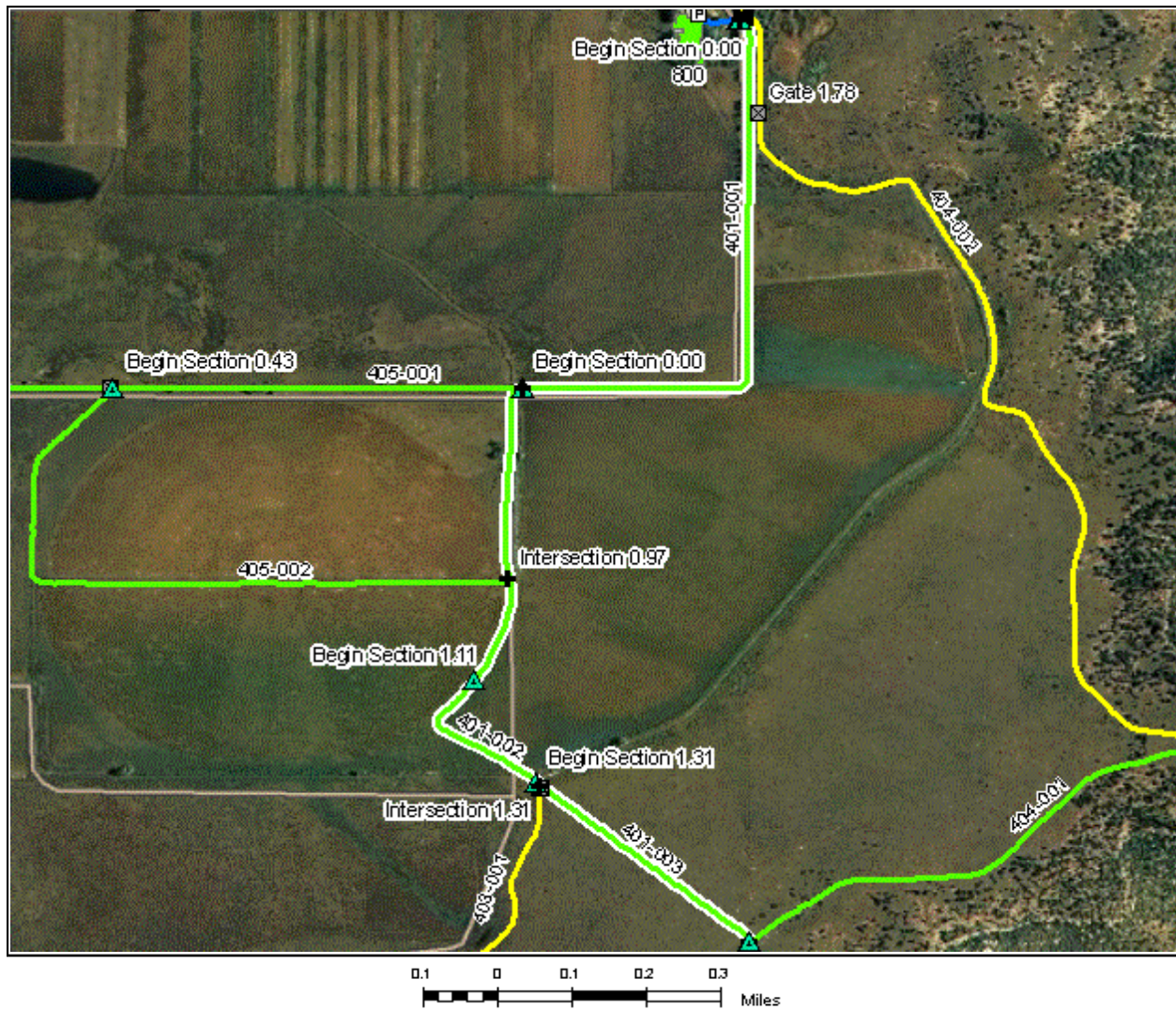


Route: 400 Clodfelter/RU1 Ponds Access Road

Total Route Length: 3.47 Miles

Route Description: From November Sunday Route (Rte 409) to end of loop

Asset Number	10010103	10010103	10010103	10010103
Section Number	001	002	003	004
Section Length (miles)	0.99	1.08	0.36	1.04
Inspection Date	10/19/2009	10/19/2009	10/19/2009	10/19/2009
Section Information				
Surface Type	Gravel	Native	Primitive	Gravel
Number of Lanes	1	1	1	1
Roadway Width (feet)	8.00	8.00	8.00	8.00
Roadway Condition Information				
Condition	Good	Good	Good	Good
Remaining Service Life (years)	5	5	5	7
Cost Estimate	1,600	1,900	200	1,700
CRV	691,400.00	387,000.00	0.00	725,300.00

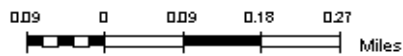
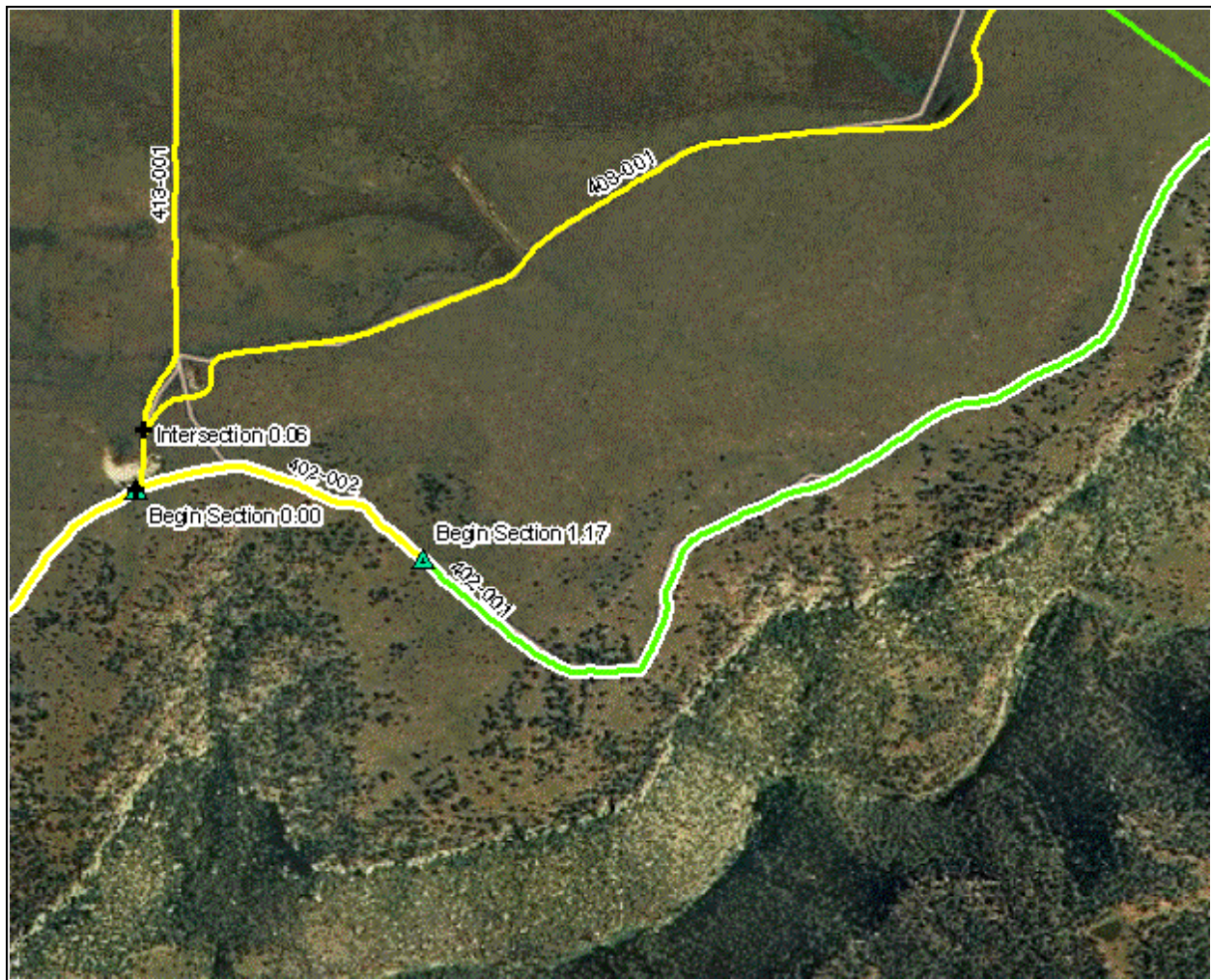


Route: 401 RU 5 Access Road

Total Route Length: **1.62 Miles**

Route Description: From Shop Area Road (Rte 301) to Gallinas Canyon Overlook South/RU 5 Road(Rte 402)

Asset Number	10010104	10010104	
Section Number	001	002	003
Section Length (miles)	1.11	0.20	0.31
Inspection Date	10/19/2009	10/19/2009	10/19/2009
Section Information			
Surface Type	Gravel	Gravel	Primitive
Number of Lanes	1	1	1
Roadway Width (feet)	8.00	8.00	8.00
Roadway Condition Information			
Condition	Good	Good	Good
Remaining Service Life (years)	7	7	5
Cost Estimate	1,800	300	100
CRV	770,100.00	139,800.00	0.00

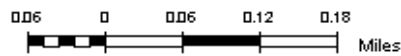
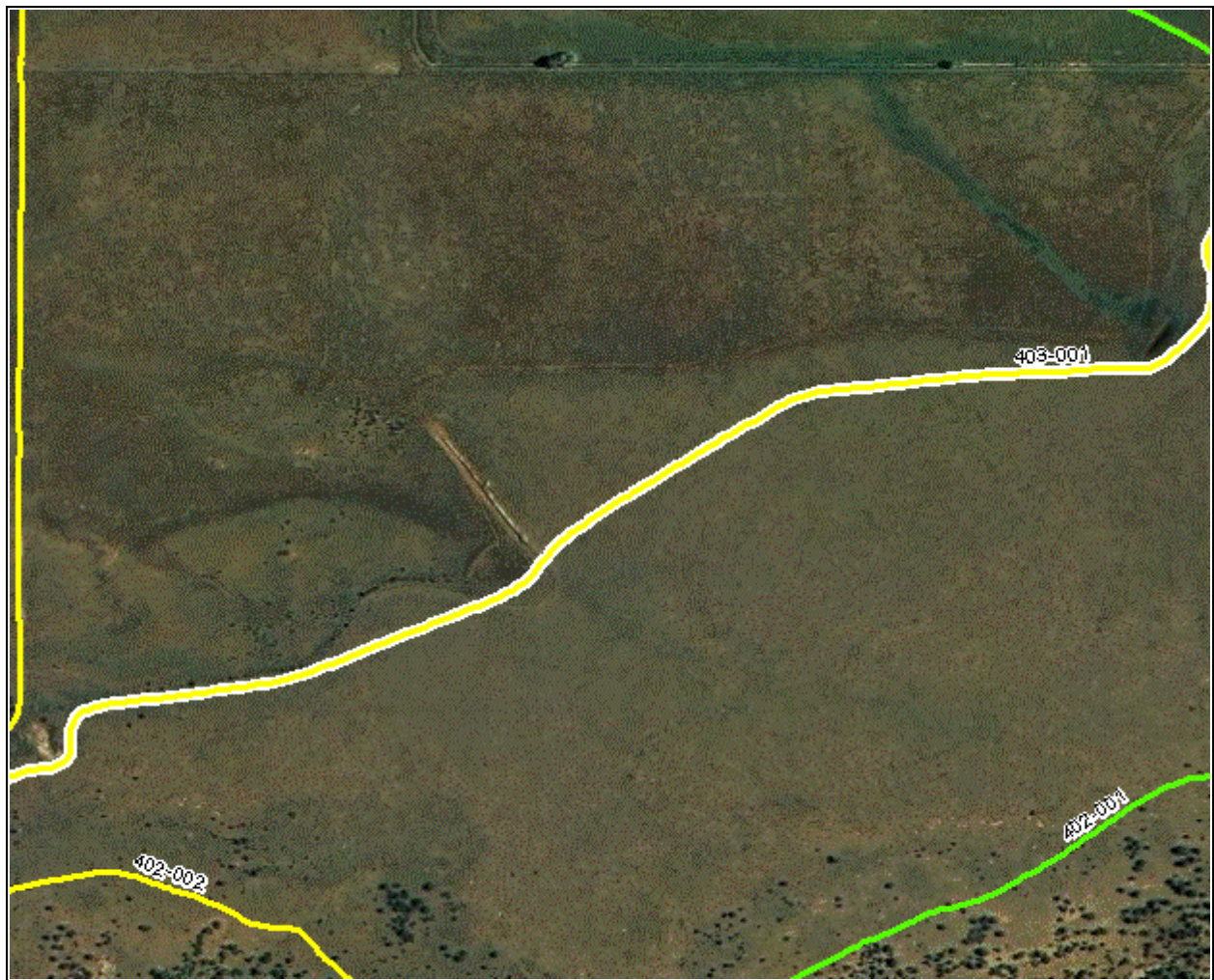


Route: 402 Gallinas Canyon Overlook South/RU 5 Road

Total Route Length: **1.99 Miles**

Route Description: From RU 5 Access Road (Rte 401) to end of route

Asset Number		
Section Number	001	002
Section Length (miles)	1.17	0.82
Inspection Date	10/19/2009	10/19/2009
Section Information		
Surface Type	Primitive	Primitive
Number of Lanes	1	1
Roadway Width (feet)	8.00	8.00
Roadway Condition Information		
Condition	Good	Fair
Remaining Service Life (years)	5	4
Cost Estimate	500	600
CRV	0.00	0.00

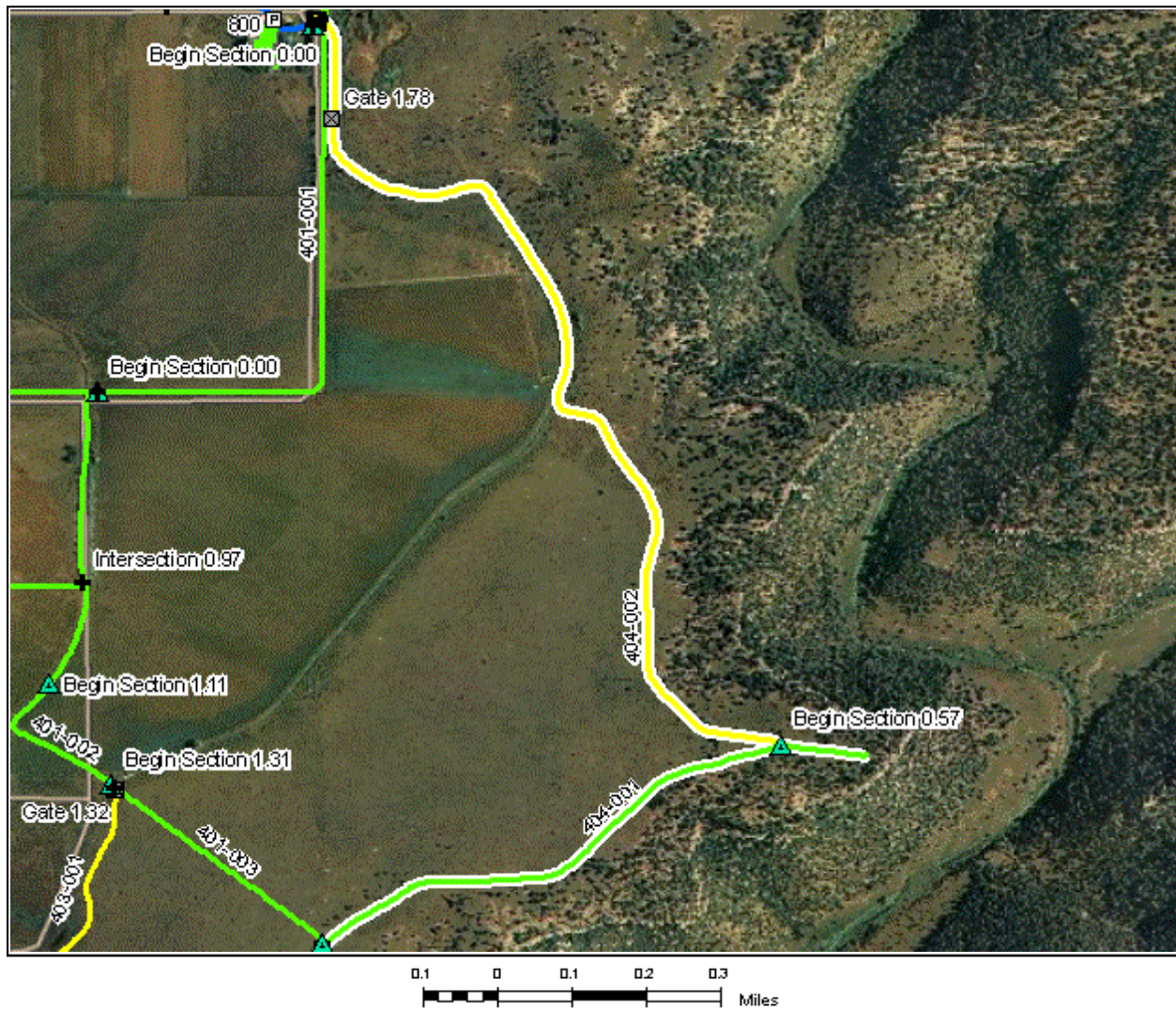


Route: 403 Gallinas Canyon Overlook North/RU 5 Road

Total Route Length: **1.18 Miles**

Route Description: From Gallinas Canyon Overlook South/RU 5 Road (Rte 402) to RU 5 Access Road (Rte 401)

Asset Number	
Section Number	001
Section Length (miles)	1.18
Inspection Date	10/19/2009
Section Information	
Surface Type	Primitive
Number of Lanes	1
Roadway Width (feet)	8.00
Roadway Condition Information	
Condition	Fair
Remaining Service Life (years)	4
Cost Estimate	800
CRV	0.00



Route: 404 Vegosa Canyon Access/RU 4A Road

Total Route Length: **1.91 Miles**

Route Description: From RU 5 Access Road (Rte 401) to Boneyard Access Road (Rte 300)

Asset Number		
Section Number	001	002
Section Length (miles)	0.67	1.24
Inspection Date	10/19/2009	10/19/2009
Section Information		
Surface Type	Primitive	Primitive
Number of Lanes	1	1
Roadway Width (feet)	8.00	8.00
Roadway Condition Information		
Condition	Good	Fair
Remaining Service Life (years)	5	4
Cost Estimate	300	900
CRV	0.00	0.00

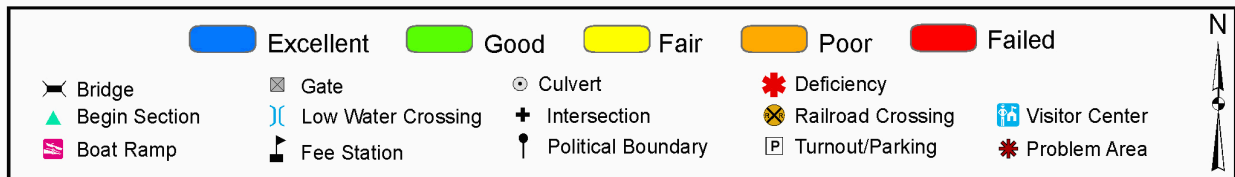


Route: 405 East Pivot Access/RU 4 Road

Total Route Length: **1.46 Miles**

Route Description: From RU 5 Access Road (Rte 401) to end of route at RU 5 Access Road (Rte 401)

Asset Number	10010103	10010103
Section Number	001	002
Section Length (miles)	0.67	0.78
Inspection Date	10/19/2009	10/19/2009
Section Information		
Surface Type	Primitive	Gravel
Number of Lanes	1	1
Roadway Width (feet)	8.00	8.00
Roadway Condition Information		
Condition	Good	Good
Remaining Service Life (years)	7	5
Cost Estimate	300	1,300
CRV	0.00	545,700.00

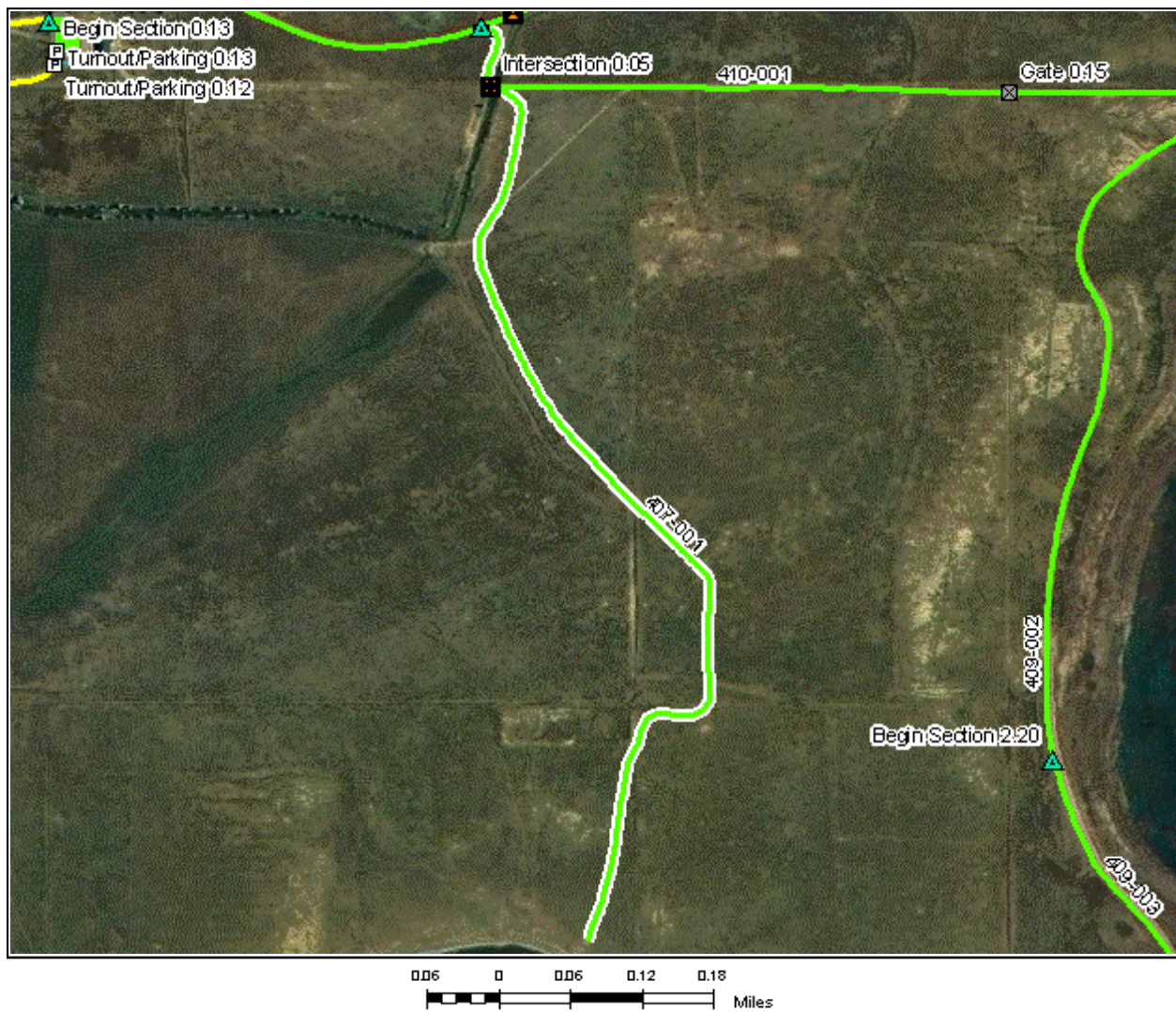


Route: 406 Shop/Farm Field Access Road

Total Route Length: **0.61 Miles**

Route Description: From Shop Access Road (Rte 301) to end at Shop Access Road (Rte 301)

Asset Number	10010103
Section Number	001
Section Length (miles)	0.61
Inspection Date	10/19/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	8.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	1,100
CRV	217,800.00



Route: 407 Crane Lake Access Road

Total Route Length: **0.84 Miles**

Route Description: From Shop Access Road (Rte 301) to end of route

Asset Number	
Section Number	001
Section Length (miles)	0.84
Inspection Date	10/19/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	8.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	1,400
CRV	585,900.00

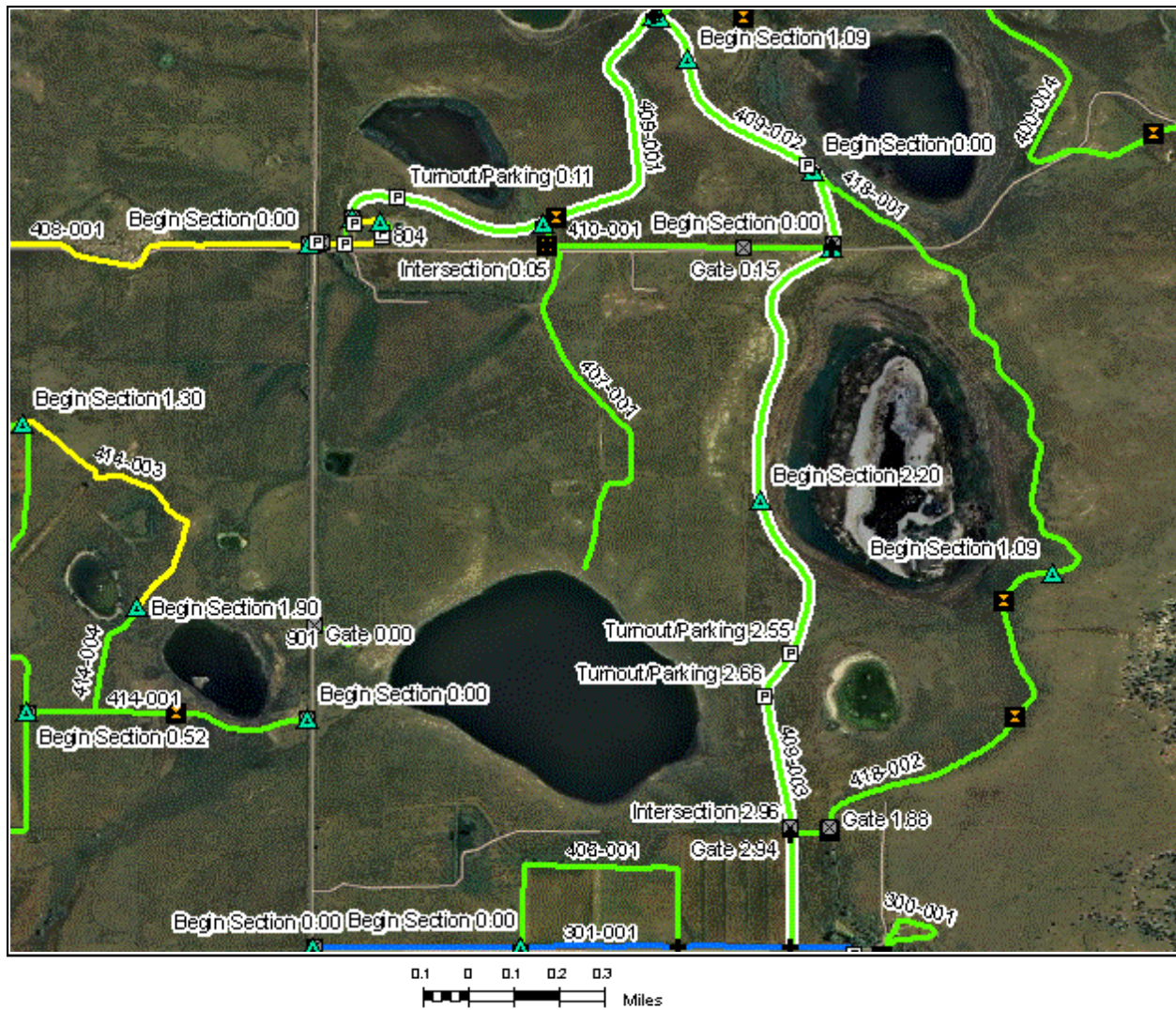


Route: 408 North RU 9 Access Road

Total Route Length: **1.02 Miles**

Route Description: From Highway 281 to end of route at gate

Asset Number	10010103
Section Number	001
Section Length (miles)	1.02
Inspection Date	10/19/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	8.00
Roadway Condition Information	
Condition	Fair
Remaining Service Life (years)	4
Cost Estimate	2,200
CRV	368,000.00

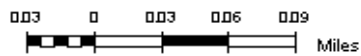


Route: 409 November Sunday Route

Total Route Length: **3.19 Miles**

Route Description: From Visitor Center Access Road (Rte 010) to Shop Access Road (Rte 300)

Asset Number	10010104	10010104	10010104
Section Number	001	002	003
Section Length (miles)	1.09	1.11	0.99
Inspection Date	10/19/2009	10/19/2009	10/19/2009
Section Information			
Surface Type	Gravel	Gravel	Gravel
Number of Lanes	1	1	1
Roadway Width (feet)	10.00	10.00	10.00
Roadway Condition Information			
Condition	Good	Good	Good
Remaining Service Life (years)	7	7	7
Cost Estimate	1,800	1,800	1,600
CRV	758,200.00	772,700.00	690,200.00

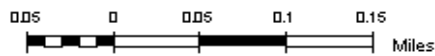
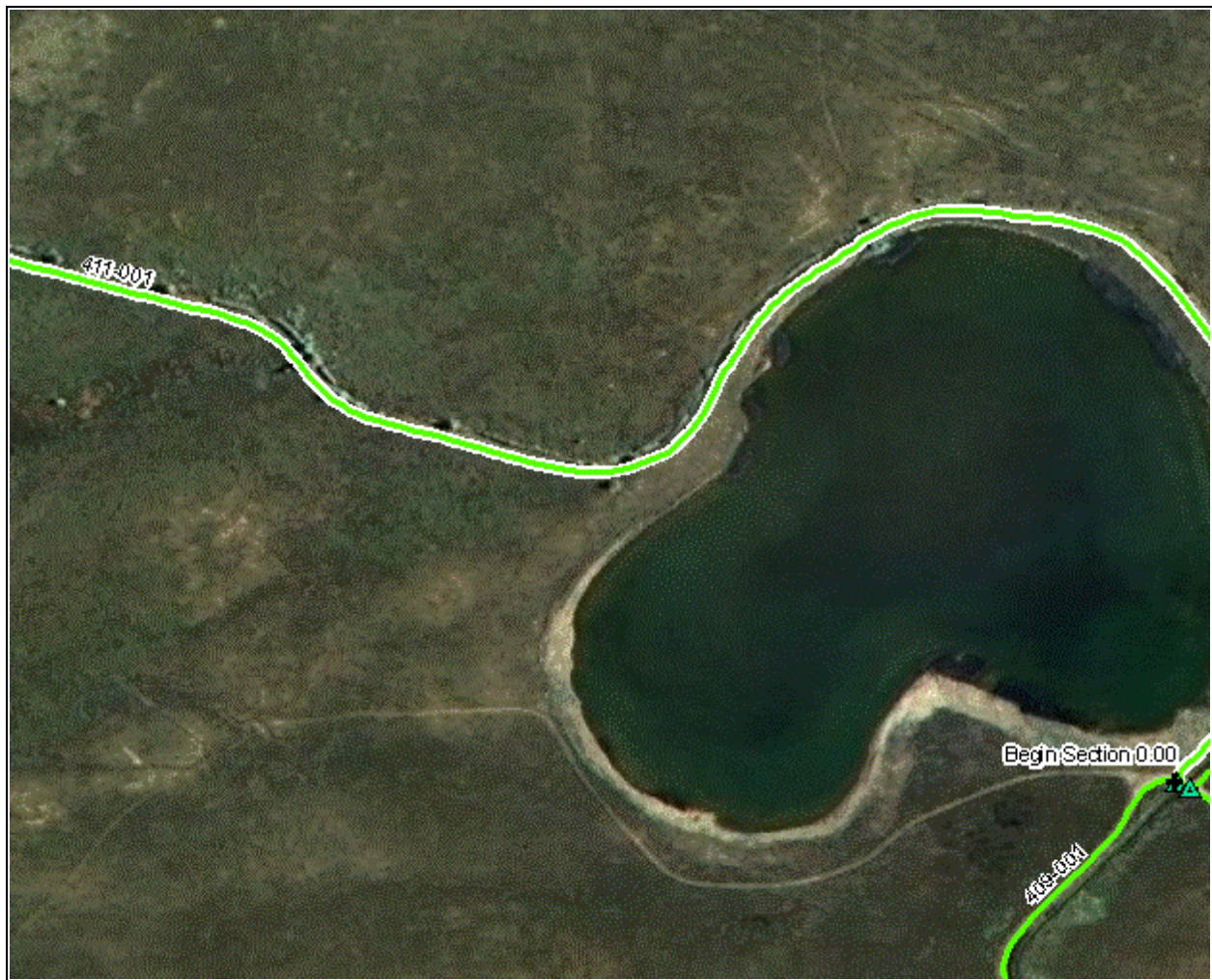


Route: 410 Fenceline Road

Total Route Length: **0.50 Miles**

Route Description: From November Sunday Route (Rte 409) to Crane Access Road (Rte 407)

Asset Number	10010104
Section Number	001
Section Length (miles)	0.50
Inspection Date	10/19/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	8.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	5
Cost Estimate	800
CRV	346,000.00

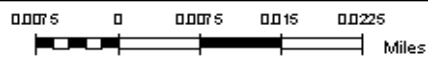


Route: 411 North Bentley Road

Total Route Length: **1.01 Miles**

Route Description: From November Sunday Route (Route 409) to Highway 281

Asset Number	10010103
Section Number	001
Section Length (miles)	1.01
Inspection Date	10/19/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	8.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	5
Cost Estimate	1,800
CRV	363,100.00

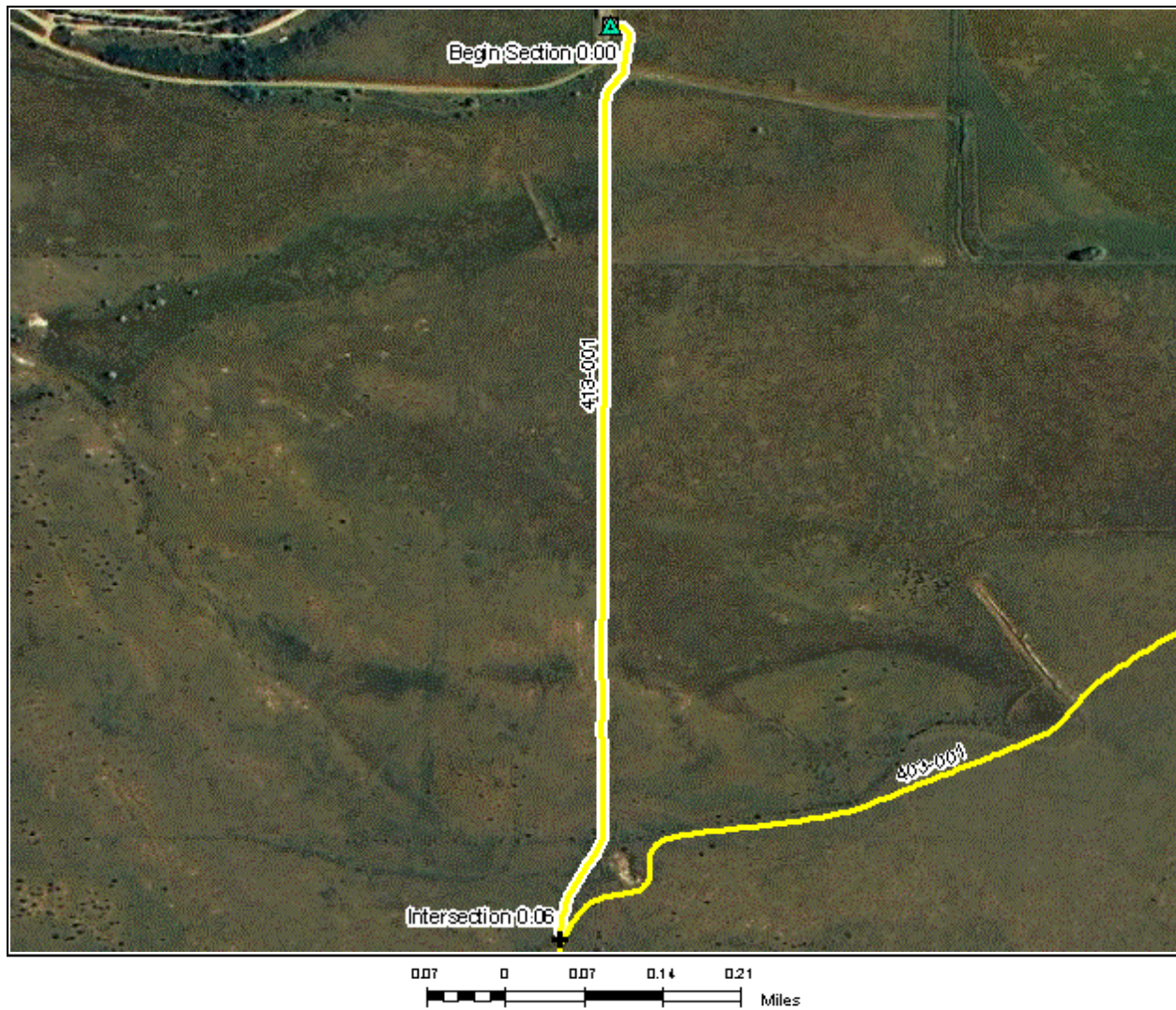


Route: 412 Bentley Flume Road

Total Route Length: **0.13 Miles**

Route Description: From November Sunday Route (Route 409) to end of route at WCS

Asset Number	10010103
Section Number	001
Section Length (miles)	0.13
Inspection Date	10/19/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	8.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	5
Cost Estimate	200
CRV	48,500.00



Route: 413 McAllister Lake/RU5 Road

Total Route Length: **0.80 Miles**

Route Description: From Highway 281 to Gallinas Canyon Overlook North/RU5 Road (Rte 403)

Asset Number	10010104
Section Number	001
Section Length (miles)	0.80
Inspection Date	10/19/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	8.00
Roadway Condition Information	
Condition	Fair
Remaining Service Life (years)	4
Cost Estimate	2,900
CRV	559,500.00

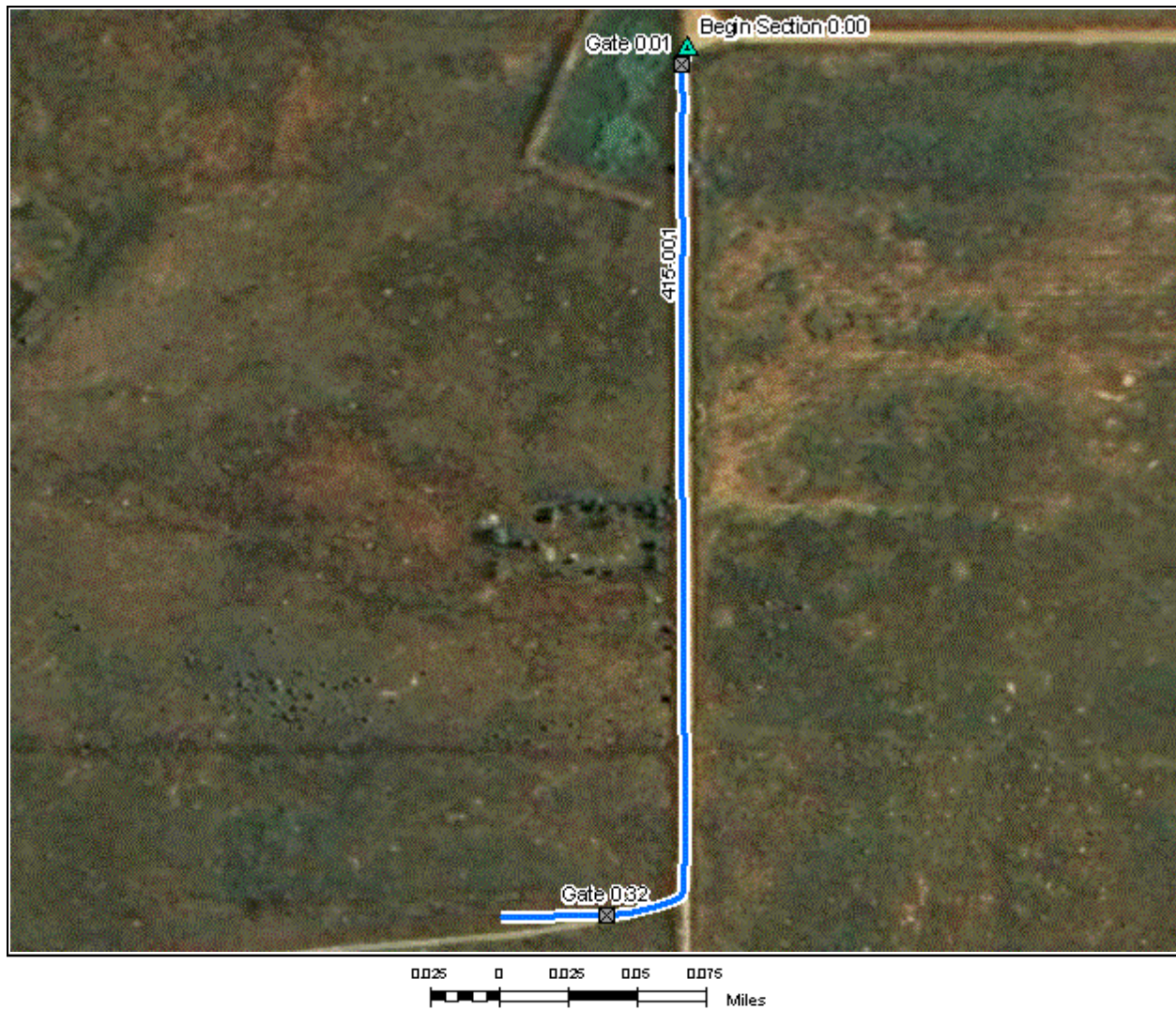


Route: 414 Middle Marsh Road

Total Route Length: **3.36 Miles**

Route Description: From Highway 281 to Hwy 281

Asset Number	10010104	10010104	10010103	10010103	10010104
Section Number	001	002	003	004	005
Section Length (miles)	1.20	0.84	0.58	0.25	0.50
Inspection Date	10/19/2009	10/19/2009	10/19/2009	10/19/2009	10/19/2009
Section Information					
Surface Type	Gravel	Gravel	Native	Native	Gravel
Number of Lanes	1	1	1	1	1
Roadway Width (feet)	12.00	8.00	8.00	8.00	8.00
Roadway Condition Information					
Condition	Good	Good	Fair	Good	Good
Remaining Service Life (years)	7	5	4	7	5
Cost Estimate	2,000	1,400	1,300	400	800
CRV	832,300.00	582,700.00	210,400.00	89,100.00	345,600.00

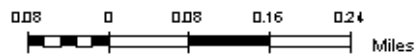
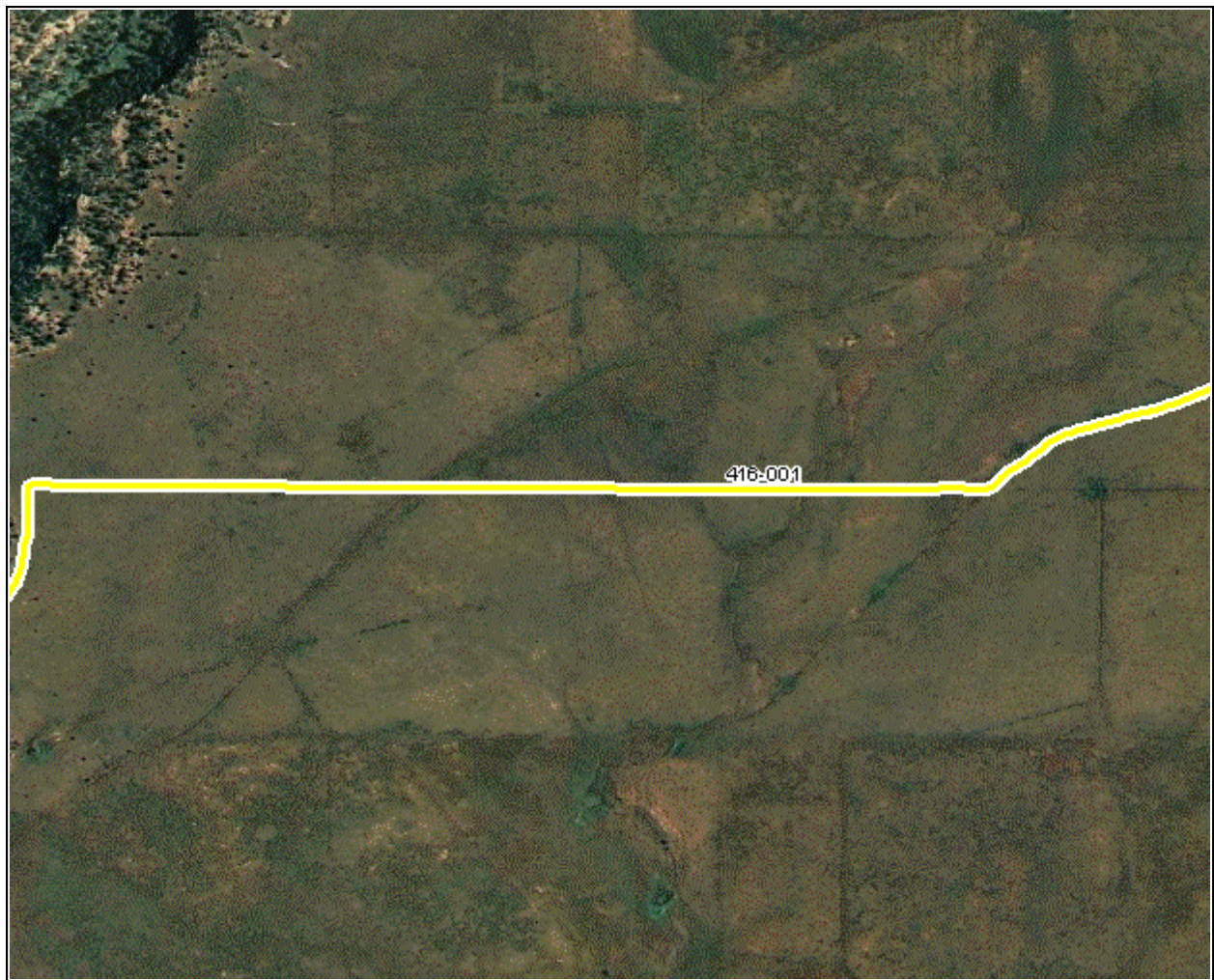


Route: 415 Gallinas Nature Trail Access Road

Total Route Length: **0.35 Miles**

Route Description: From Highway 281 to end of route at gate

Asset Number	10010104
Section Number	001
Section Length (miles)	0.35
Inspection Date	10/20/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	8
Cost Estimate	0
CRV	244,500.00

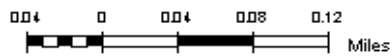


Route: 416 Gallinas Canyon Access/RU 7 Road

Total Route Length: **1.18 Miles**

Route Description: From Highway 281 to end of route at canyon

Asset Number	
Section Number	001
Section Length (miles)	1.18
Inspection Date	10/20/2009
Section Information	
Surface Type	Primitive
Number of Lanes	1
Roadway Width (feet)	8.00
Roadway Condition Information	
Condition	Fair
Remaining Service Life (years)	4
Cost Estimate	800
CRV	0.00



Route: 417 Estrada Access/RU 7 Road

Total Route Length: **0.58 Miles**

Route Description: From Highway 281 to western boundary fence

Asset Number	10010103
Section Number	001
Section Length (miles)	0.58
Inspection Date	10/20/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	8.00
Roadway Condition Information	
Condition	Fair
Remaining Service Life (years)	4
Cost Estimate	1,300
CRV	209,300.00



Route: 418 East Lateral Access Road

Total Route Length: **1.97 Miles**

Route Description: From November Sunday Route (Rte 409) to November Sunday Route (Route 409)

Asset Number	10010103	10010103
Section Number	001	002
Section Length (miles)	1.09	0.89
Inspection Date	10/20/2009	10/20/2009
Section Information		
Surface Type	Native	Native
Number of Lanes	1	1
Roadway Width (feet)	10.00	8.00
Roadway Condition Information		
Condition	Good	Good
Remaining Service Life (years)	7	7
Cost Estimate	1,900	1,500
CRV	390,600.00	319,300.00

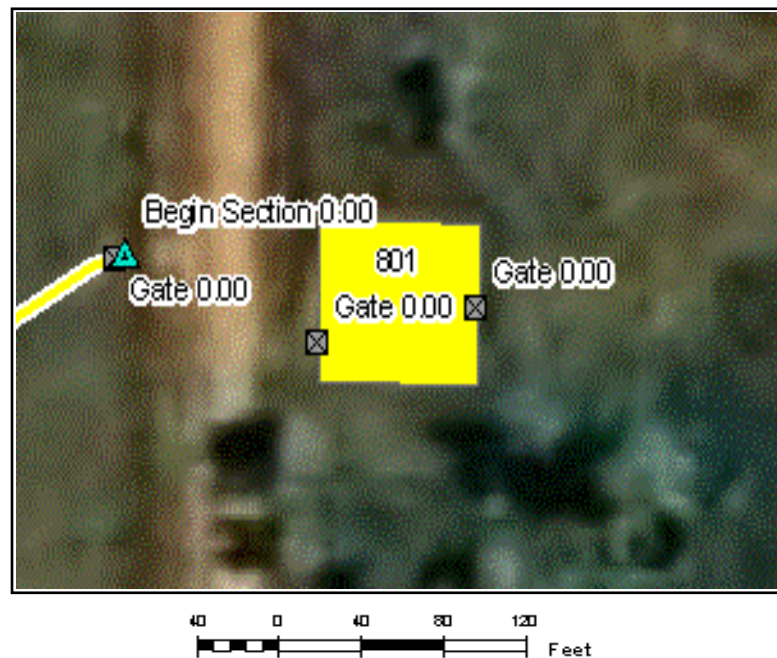
800: Shop Area Parking

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
	10/19/2009	Gravel	35,896	Good	5,400



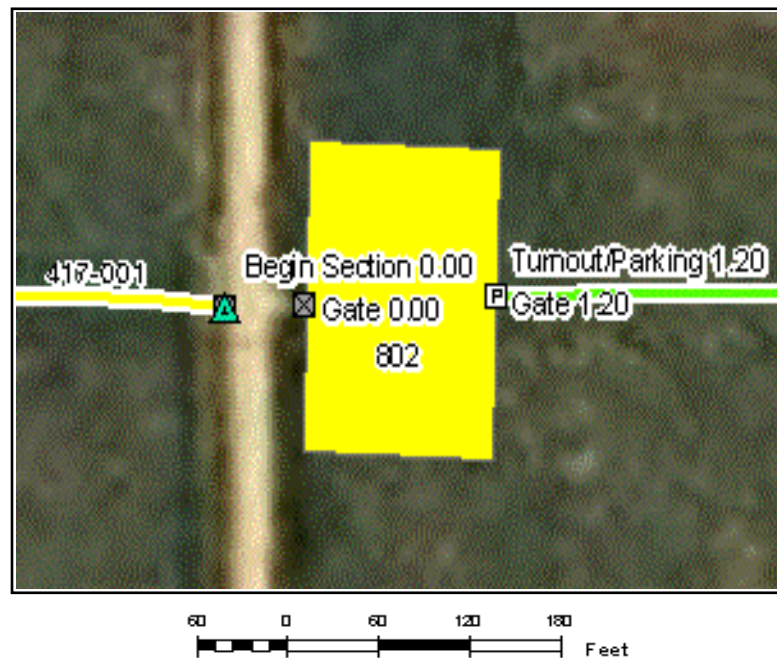
801: RU 8 Hunter Parking

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
	10/20/2009	Native	3,198	Fair	900



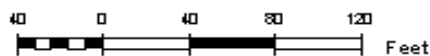
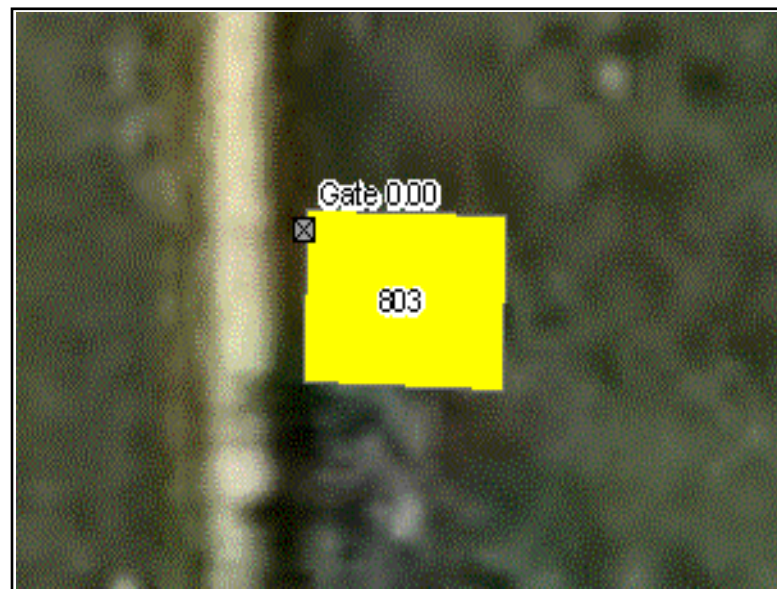
802: Middle Marsh Road Hunter/RU 8 Parking

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
	10/20/2009	Gravel	13,406	Fair	3,600



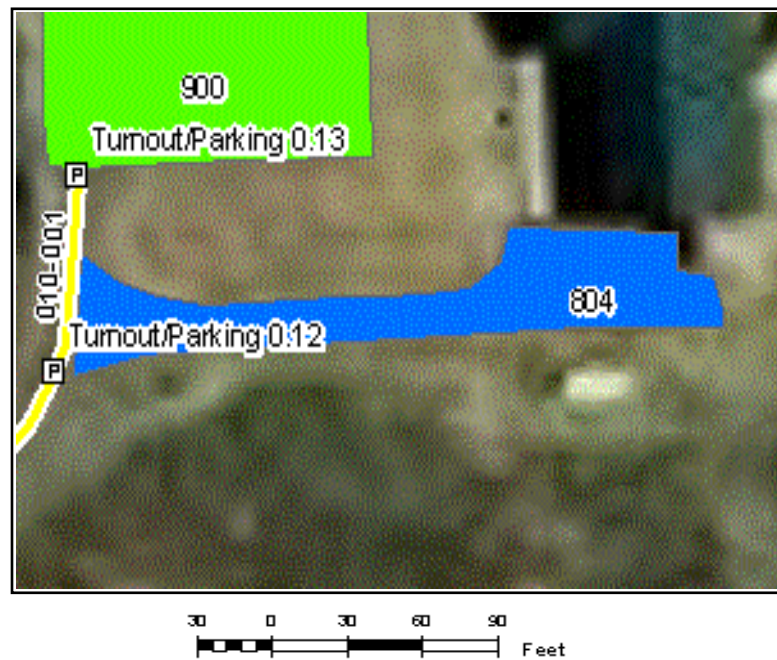
803: RU 8 North Parking

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
	10/20/2009	Native	3,928	Fair	1,000



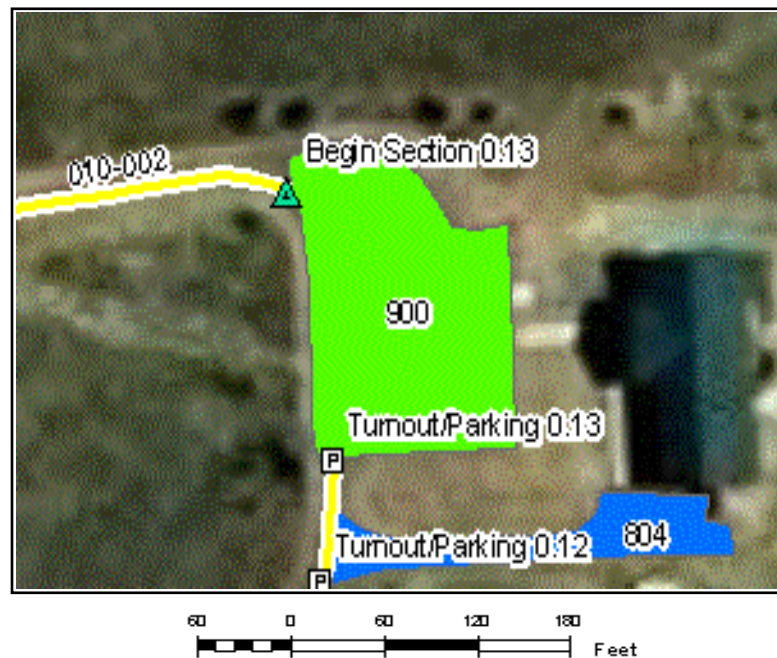
804: Headquarters Employee Parking

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
	10/20/2009	Asphalt	3,611	Excellent	0



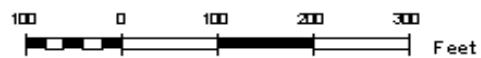
900: Visitor Center Parking

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
10059269	10/20/2009	Asphalt	12,075	Good	2,300



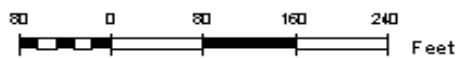
901: Crane Overlook Parking Area

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
10059273	10/19/2009	Gravel	23,809	Good	3,600



902: Visitor Center Overflow Parking

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
10059269	10/20/2009	Asphalt	11,409	Good	2,100



Las Vegas Bridge Inventory					
Route #	Milepost	NBIS #	Sufficiency Rating	Functionally Obsolete	Structurally Deficient

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 010 ROUTE NAME: VC Entrance Road



Photo # LaVe_C4_0534 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 010 ROUTE NAME: VC Entrance Road



Photo # LaVe_C4_0541 - MP 0.13 - Begin Section 002

ROUTE NUMBER: 300 ROUTE NAME: Boneyard Access Road



Photo # LaVe_C4_0432 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 301 ROUTE NAME: Shop Access Road



Photo # LaVe_C4_0438 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 400 ROUTE NAME: Clodfelter/RU1 Ponds Access Road



Photo # LaVe_C4_0391 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 400 ROUTE NAME: Clodfelter/RU1 Ponds Access Road



Photo # LaVe_C4_0396 - MP 0.99 - Begin Section 002

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 400 ROUTE NAME: Clodfelter/RU1 Ponds Access Road



Photo # LaVe_C4_0397 - MP 1.15 - R 002

ROUTE NUMBER: 400 ROUTE NAME: Clodfelter/RU1 Ponds Access Road



Photo # LaVe_C4_0401 - MP 2.07 - Begin Section 003

ROUTE NUMBER: 400 ROUTE NAME: Clodfelter/RU1 Ponds Access Road



Photo # LaVe_C4_0402 - MP 2.14 - Begin Section 004

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 400 ROUTE NAME: Clodfelter/RU1 Ponds Access Road



Photo # LaVe_C4_0405 - MP 2.23 - R 004

ROUTE NUMBER: 400 ROUTE NAME: Clodfelter/RU1 Ponds Access Road



Photo # LaVe_C4_0409 - MP 2.92 - R 004

ROUTE NUMBER: 400 ROUTE NAME: Clodfelter/RU1 Ponds Access Road



Photo # LaVe_C4_0411 - MP 3.17 - R 004

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 401 ROUTE NAME: RU 5 Access Road



Photo # LaVe_C4_0413 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 401 ROUTE NAME: RU 5 Access Road



Photo # LaVe_C4_0414 - MP 0.74 - R 001

ROUTE NUMBER: 401 ROUTE NAME: RU 5 Access Road



Photo # LaVe_C4_0416 - MP 1.11 - Begin Section 002

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 401 ROUTE NAME: RU 5 Access Road



Photo # LaVe_C4_0417 - MP 1.31 - Begin Section 003

ROUTE NUMBER: 402 ROUTE NAME: Gallinas Canyon Overlook South/RU 5 Road



Photo # LaVe_C4_0419 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 402 ROUTE NAME: Gallinas Canyon Overlook South/RU 5 Road



Photo # LaVe_C4_0420 - MP 1.17 - Begin Section 002

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 403 ROUTE NAME: Gallinas Canyon Overlook North/RU 5 Road



Photo # LaVe_C4_0421 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 404 ROUTE NAME: Vegosa Canyon Access/RU 4A Road



Photo # LaVe_C4_0423 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 404 ROUTE NAME: Vegosa Canyon Access/RU 4A Road



Photo # LaVe_C4_0424 - MP 0.57 - Begin Section 002

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 405 ROUTE NAME: East Pivot Access/RU 4 Road



Photo # LaVe_C4_0426 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 405 ROUTE NAME: East Pivot Access/RU 4 Road



Photo # LaVe_C4_0428 - MP 0.52 - R 001

ROUTE NUMBER: 405 ROUTE NAME: East Pivot Access/RU 4 Road



Photo # LaVe_C4_0431 - MP 0.43 - Begin Section 002

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 406 ROUTE NAME: Shop/Farm Field Access Road



Photo # LaVe_C4_0435 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 406 ROUTE NAME: Shop/Farm Field Access Road



Photo # LaVe_C4_0436 - MP 0.00 - R 001

ROUTE NUMBER: 407 ROUTE NAME: Crane Lake Access Road



Photo # LaVe_C4_0443 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 408 ROUTE NAME: North RU 9 Access Road



Photo # LaVe_C4_0446 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 408 ROUTE NAME: North RU 9 Access Road



Photo # LaVe_C4_0447 - MP 0.48 - R 001

ROUTE NUMBER: 408 ROUTE NAME: North RU 9 Access Road



Photo # LaVe_C4_0449 - MP 0.97 - R 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0452 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0454 - MP 0.36 - R 001

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0458 - MP 0.99 - R 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0460 - MP 1.09 - Begin Section 002

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0471 - MP 1.18 - R 002

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0473 - MP 1.60 - R 002

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0476 - MP 1.69 - R 002

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0478 - MP 1.78 - R 002

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0480 - MP 1.82 - R 002

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0482 - MP 1.92 - R 002

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0484 - MP 2.08 - R 002

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0486 - MP 2.20 - Begin Section 003

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0487 - MP 2.36 - R 003

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0489 - MP 2.82 - R 003

ROUTE NUMBER: 409 ROUTE NAME: November Sunday Route



Photo # LaVe_C4_0492 - MP 2.95 - R 003

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 410 ROUTE NAME: Fenceline Road



Photo # LaVe_C4_0461 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 411 ROUTE NAME: North Bentley Road



Photo # LaVe_C4_0463 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 412 ROUTE NAME: Bentley Flume Road



Photo # LaVe_C4_0467 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 413 ROUTE NAME: McAllister Lake/RU5 Road



Photo # LaVe_C4_0496 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 413 ROUTE NAME: McAllister Lake/RU5 Road



Photo # LaVe_C4_0511 - MP 0.05 - R 001

ROUTE NUMBER: 413 ROUTE NAME: McAllister Lake/RU5 Road



Photo # LaVe_C4_0513 - MP 0.80 - R 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 414 ROUTE NAME: Middle Marsh Road



Photo # LaVe_C4_0497 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 414 ROUTE NAME: Middle Marsh Road



Photo # LaVe_C4_0503 - MP 0.75 - Begin Section 002

ROUTE NUMBER: 414 ROUTE NAME: Middle Marsh Road



Photo # LaVe_C4_0504 - MP 1.30 - Begin Section 003

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 414 ROUTE NAME: Middle Marsh Road



Photo # LaVe_C4_0505 - MP 1.49 - R 003

ROUTE NUMBER: 414 ROUTE NAME: Middle Marsh Road



Photo # LaVe_C4_0507 - MP 1.90 - Begin Section 004

ROUTE NUMBER: 414 ROUTE NAME: Middle Marsh Road



Photo # LaVe_C4_0508 - MP 1.94 - R 004

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 414 ROUTE NAME: Middle Marsh Road



Photo # LaVe_C4_0510 - MP 0.52 - Begin Section 005

ROUTE NUMBER: 415 ROUTE NAME: Gallinas Nature Trail Access Road



Photo # LaVe_C4_0515 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 416 ROUTE NAME: Gallinas Canyon Access/RU 7 Road



Photo # LaVe_C4_0520 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 417 ROUTE NAME: Estrada Access/RU 7 Road



Photo # LaVe_C4_0522 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 417 ROUTE NAME: Estrada Access/RU 7 Road



Photo # LaVe_C4_0523 - MP 0.16 - R 001

ROUTE NUMBER: 418 ROUTE NAME: East Lateral Access Road



Photo # LaVe_C4_0542 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 418 ROUTE NAME: East Lateral Access Road



Photo # LaVe_C4_0543 - MP 1.09 - Begin Section 002

ROUTE NUMBER: 418 ROUTE NAME: East Lateral Access Road



Photo # LaVe_C4_0551 - MP 1.95 - R 002

Accident Summary

Number of Accidents Reported	Timespan of Accidents	Injuries	Fatalities
0	No Accidents to Report	0	0

APPENDIX

TABLE 1 - GENERAL FWS ROAD FUNCTIONAL CLASSIFICATION	
Class I	Principal Refuge Road (Public Roads) - Routes that constitute the main access route, main auto tour route, or thoroughfare for refuge visitors. These routes are accessible by 2WD vehicles. Routes are numbered from 10 to 99.
Class II	Connector Refuge Road (Public Roads) - Routes that provide circulation within the refuge. These routes can also provide access to areas of scenic, scientific, recreational or cultural interest, such as overlooks, campgrounds, education centers, etc. These routes are accessible by 2WD vehicles. Routes are numbered from 100 to 199.
Class III	Special Purpose Refuge Road (Public Roads) - Roads that provide circulation within special use areas such as campgrounds or public concessionaire facilities or access to remote areas of the refuge. These routes may not be 2WD accessible. Routes are numbered from 200 to 299
Class IV	Administrative Access Road (Administrative Roads) - Routes intended for access to administrative developments or structures such as maintenance offices, employee quarters, or utility areas. These routes are accessible by 2WD vehicles. These routes may restrict access to the general public. Routes are numbered from 300 to 399.
Class V	Restricted Road (Administrative Roads) - Routes normally closed to the public, such as maintenance roads, service roads, patrol roads, and fire breaks. These routes may be open to the public for a short period of time for a special use, such as hunting access. These routes may not be 2WD accessible. Routes are numbered from 400 to 499.

A refuge road system contains those routes within or giving access to a refuge or other unit of the FWS that are administered by the FWS, or by the Service in cooperation with other agencies. The assignment of a functional classification (FC) to a refuge road is not based on traffic volumes or design speed, but on the intended use or function of that route

DESCRIPTION OF RATING SYSTEM

Rating Data is collected on four different surface types: Asphalt, Concrete, Gravel, and Native. The Utah LTAP Center's Remaining Service Life (RSL) system is used for all surface types. The RSL system is based on the Strategic Highway Research Program's (SHRP) Distress Identification Manual.

Asphalt Rating System

Data is collected on the following distresses and conditions:

- **Fatigue Cracking** - Interconnected cracks forming small irregular shapes.
- **Longitudinal Cracking** - Cracks running parallel with the roadway, in the direction of traffic.
- **Transverse Cracking** - Cracks perpendicular to the roadway, going across the lane or lanes.
- **Block Cracking** - Interconnected cracks forming large blocks.
- **Edge Cracking** - Cracks running along the edge of the pavement surface.
- **Patches** - Original surface repaired with new asphalt patch material.
- **Potholes** - Holes or depressions in the pavement.
- **Rutting** - surface depressions in the wheel paths.
- **Roughness** - Evenness of pavement for serviceability.
- **Drainage** - Ability of the road surface to drain water based on proper slope.

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

Fatigue, longitudinal, transverse, block, and edge cracking, along with patching and potholes are rated on a 0 - 9 scale (0 = no distress, 9 = maximum distress). The rating given is based on the extent and the severity of the distress. Rutting, roughness, and drainage are rated on a 0 - 3 scale (0 = excellent, 3 = poor). Each distress type has given Remaining Service Life (RSL) values (in years) based on the rating for that particular distress. The distress with the rating resulting in the lowest RSL value is considered to be the governing distress. That value is then assigned as the RSL of the road segment.

Concrete Rating System

Data is collected on the following distresses and conditions:

- **Spalling of Joints** - Chipping, breaking, or cracking of slab edges
- **Joint Seal Damage** - Any damage or condition that enables materials or water to infiltrate into the joint from the surface.
- **Corner Breaks** - A portion of the slab separated by a crack that intersects the adjacent transverse and longitudinal joints, forming approximately a 45° angle to the direction.
- **Broken Slabs** - Faulting and/or cracking localized to individual slabs.

- **Faulting** – Difference in elevation across a crack or joint.
- **Longitudinal Cracking** – Cracks in the pavement running parallel to road.
- **Transverse Cracking** - Cracks in the pavement running perpendicular to the direction of traffic.
- **Patch Deterioration** – Faulting, settling, or cracking of previously placed patch
- **Map Cracking** – A series of cracks that extend only into the upper surface of the Slab

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

The rating procedure for concrete pavement is the same as that for asphalt pavement described previously. Each of the distresses described above are rated on the same 0 – 9 scale. The governing distress is then determined and the RSL associated with that distress is assigned to the road segment.

Gravel and Native Rating System

Data is collected on the following distresses and conditions:

- **Cross Section (Crown)** - Roadway built so that the center is higher than the shoulder, to prevent water from pooling on roadway.
- **Roadside Drainage** - Roadside ditches and culverts to handle water flow and prevent pooling on the roadside.
- **Corrugations (Washboarding)** - Small trenches or holes developing perpendicular to the roadway.
- **Potholes** - Holes or depressions in the roadway.
- **Rutting** - Depressions running parallel with the roadway, in the wheelpaths.
- **Dust** - Amount of dust caused by traffic.
- **Loose Aggregate (Gravel Only)** - Loose gravel, typically piled up on the roadway edges or centerline.

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

The rating procedure for unpaved roads is the same as that for asphalt and concrete pavements described previously. Of the distresses described above, corrugations, potholes, rutting, and loose aggregate are rated on the same 0 – 9 scale previously mentioned. Cross section, roadside drainage, and dust are rated on the same 0 – 3 scale described for asphalt pavement. The governing distress is then determined and the RSL associated with that distress is assigned to the road segment.

Condition Descriptions by Surface Type

The following definitions are used to describe pavement condition for the various surface types. These are general guidelines for condition indications.

Asphalt

Excellent – Recently constructed or overlaid road where construction or overlay was performed correctly- No maintenance required. RSL = 19-20 years.

Good – Low extent longitudinal and transverse cracks. All cracks are 1/4" or less with little or no crack erosion. Patches are in good condition and applied correctly. Routine Maintenance recommended. RSL = 13-18 years.

Fair - Roads are in good structural condition with little or no fatigue cracking. Longitudinal, transverse, and edge cracking is at medium extent and severity. Block cracking is not extensive. Any patches are in good condition. Preventative maintenance recommended. RSL = 7-12 years.

Poor - Road beginning to show signs of structural distress. Fatigue cracking is medium to high extent and medium severity. Cracking will be severe. Surface may have severe block cracking and show. Patches are in fair to poor condition. There is moderate distortion or rutting and occasional potholes. Rehabilitation recommended. RSL = 1-6 years.

Failed - Road is severely deteriorated. Signs of structural failure appear along with severe and extensive fatigue cracking, distortion, potholes, or extensive patches in poor condition. Reconstruction recommended. RSL = 0 years.

Concrete

Excellent - New pavement. No maintenance required. RSL = 19-20 years

Good - First signs of transverse cracking, patch or repair, more extensive pop-outs, or scaling. Sealing or routine maintenance recommended. RSL = 13-18 years.

Fair – Pavement has joint or crack spalling, and/or faulting, along with cracking at corners with broken pieces. Any Patches are in fair condition and faulting is at a minimum. Preventative maintenance recommended. RSL = 7-12 years.

Poor - Joints and cracks are open 1 inch, spalled, or patched. Faulting is more severe. Rehabilitation recommended. RSL = 1-6 years.

Failed - Most slabs have failed structurally, and faulting is severe. Reconstruction recommended. RSL = 0 years.11-9

The following table shows the relationship between RSL and condition.

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE (Asphalt and Concrete Pavements)								
	FAILED	POOR		FAIR		GOOD		EXCELLENT
RSL Years	0	1-3	4-6	7-9	10-12	13-15	16-18	19-20

Gravel and Native

Note - Native surfaces do not have a gravel layer.

Excellent - Newly constructed road that has been constructed properly with proper crown, drainage and gravel layer. Little or no distress. No maintenance recommended. RSL = 8-10 years.

Good - Crown, drainage provisions, and gravel layer are in good condition. Distress limited to traffic effects such as dust, loose aggregate, and low severity corrugations (wash boarding). RSL = 5-7 years.

Fair - Adequate drainage and crown through majority of roadway. Crown repair, ditch improvement may be necessary. Road has more severe corrugations and potholes. Preventative maintenance recommended. RSL = 3-4 years.

Poor - Travel at slow speeds is necessary. Additional gravel layer needed to carry traffic. Poor crown. Ditching is inadequate and rutting is extensive and severe. Rehabilitation recommended. RSL = 1-2 years.

Failed - Travel is difficult, and road may be closed at times. Rutting and Corrugations are very severe. Total Reconstruction of road is recommended. RSL = 0 years.

The following table shows the RSL values for gravel and native roads in terms of excellent, good, fair, poor, and failed condition.

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE (Gravel and Native Surfaces)					
	FAILED	POOR	FAIR	GOOD	EXCELLENT
RSL Years	0	1-2	3-4	5-7	8-10

NATIVE PRIMITIVE/IMPROVED RATING SHEET

Cross Section (Crown)*

Severity	Condition		Description
	No Defects	0	Crown 4-6" with no restriction of water flow from centerline to ditch.
	Minor Defects	1	Inadequate or inconsistent crown. Drainage to ditch may be restricted.
	Moderate Defects	2	Flat crown, drainage to ditch restricted.
	Major Defects	3	Reverse crown, bowl-shaped road, drainage on roadway

Rutting

Severity	Extent (Length)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low < 6"	1	2	3
	Med 6-12"	4	5	6
	High > 12"	7	8	9

Roadside Drainage*

Severity	Condition		Description
	No Defects	0	Wide, deep ditches (>4') with no restriction to water flow.
	Minor Defects	1	Adequate ditches (>2' deep), minor obstructions restrict water flow.
	Moderate Defects	2	Shallow, narrow and obstructed ditches. Minor erosion of road.
	Major Defects	3	No ditch, drainage on roadway with moderate to severe erosion.

Potholes

Severity	Extent (Area)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low < 6"	1	2	3
	Med 6-12"	4	5	6
	High > 12"	7	8	9

Dust

Severity	Condition		Description
	No Defects	0	No obstruction to sight distance.
	Minor Defects	1	Sight distance > 550'
	Moderate Defects	2	Sight distance 225'-550'
	Major Defects	3	Sight distance < 225'

Corrugations

Severity	Extent (Length)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low < 3"	1	2	3
	Med 3-6"	4	5	6
	High > 6"	7	8	9

* Crown and Drainage are not rated for roads that have no constructed crown or drainage. This applies to Native and Gravel roads.

GRAVEL RATING SHEET

Cross Section (Crown)

Severity	Condition		Description
	No Defects	0	Crown 4-6" with no restriction of water flow from centerline to ditch.
	Minor Defects	1	Inadequate or inconsistent crown. Drainage to ditch may be restricted.
	Moderate Defects	2	Flat crown, drainage to ditch restricted.
	Major Defects	3	Reverse crown, bowl-shaped road, drainage on roadway

Rutting

Severity	Extent (Length)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low < 1"	1	2	3
	Med 1-3"	4	5	6
	High > 3"	7	8	9

Roadside Drainage

Severity	Condition		Description
	No Defects	0	Wide, deep ditches (>4') with no restriction to water flow.
	Minor Defects	1	Adequate ditches (>2' deep), minor obstructions restrict water flow.
	Moderate Defects	2	Shallow, narrow and obstructed ditches. Minor erosion of road.
	Major Defects	3	No ditch, drainage on roadway with moderate to severe erosion.

Potholes

Severity	Extent (Area)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low < 1"	1	2	3
	Med 1-3"	4	5	6
	High > 3"	7	8	9

Dust

Severity	Condition		Description
	No Defects	0	No obstruction to sight distance.
	Minor Defects	1	Sight distance > 550'
	Moderate Defects	2	Sight distance 225'-550'
	Major Defects	3	Sight distance < 225'

Corrugations

Severity	Extent (Length)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low < 2"	1	2	3
	Med 2-4"	4	5	6
	High > 4"	7	8	9

* Crown and Drainage are not rated for roads that have no constructed crown or drainage. This applies to Native and Gravel roads.

Loose Aggregate

Severity	Extent (Area)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low < 1"	1	2	3
	Med 1-3"	4	5	6
	High > 3"	7	8	9

ASPHALT RATING SHEET

Fatigue Cracking

Severity	Extent			
	No Defects	Low 1 crack WP	Med 2 cracks WP	High >30% length
	Low-Cracks < 1/4"	1	2	3
	Med-Cracks 1/4-3/4"	4	5	6
	High-Cracks > 3/4"	7	8	9

Edge Cracking

Severity	Extent (Length)			
	No Defects	Low <10%	Med 10-30%	High >30%
	0-6" from curb	1	2	3
	6-18" from curb	4	5	6
	> 18" from curb	7	8	9

Longitudinal Cracking

Severity	Extent			
	No Defects	Low 1 crack full length	Med 2 cracks full length	High >2 cracks full length
	Low-Cracks < 1/4"	1	2	3
	Med-Cracks 1/4-3/4"	4	5	6
	High-Cracks > 3/4"	7	8	9

Block Cracking

Severity	Extent (Length)			
	No Defects	Low > 15x15' squares	Med 15-10' squares	High <10x10' squares
	Low-Cracks < 1/4"	1	2	3
	Med-Cracks 1/4-3/4"	4	5	6
	High-Cracks > 3/4"	7	8	9

Transverse Cracking

Severity	Extent (ft between cracks)			
	No Defects	Low > 200'	Med 200-50'	High < 50'
	Low-Cracks < 1/4"	1	2	3
	Med-Cracks 1/4-3/4"	4	5	6
	High-Cracks > 3/4"	7	8	9

Utility Cuts

Severity	Extent (Length)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low-Cracks < 1/4"	1	2	3
	Med-Cracks 1/4-3/4"	4	5	6
	High-Cracks > 3/4"	7	8	9

Drainage/Roughness/Rutting

Severity	Condition		Description
	No Defects	0	Wide, deep ditches with no obstructions, smooth ride, no rutting, no potholes.
	Minor Defects	1	Drainage may be obstructed, < 1" rutting, minor roughness.
	Moderate Defects	2	Poor drainage, 1-2" rutting, noticeable roughness, potholes < 6" wide.
	Major Defects	3	No drainage; > 2" rutting; potholes 6-12" wide create roughness requiring reduced speeds.

CONCRETE RATING SHEET

Spalling of Joints

Extent (% joints)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low Spalls < 3"	1	2	3
	Med Spalls 3-6"	4	5	6
	High Spalls > 6"	7	8	9

Broken Slabs

Extent (% slabs)				
No Defects	Low <5%	Med 5-15%	High >15%	
Severity	Low-no more than 3 pieces, no spalling/faulting	1	2	3
	Med-broken into >3 pieces, spalling/faulting <1/4"	4	5	6
	High-4 or more pieces, spalling/faulting >1/4"	7	8	9

Transverse Cracks

Extent (% slabs)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low-Cracks < 1/8"; no spalling/faulting	1	2	3
	Med-Cracks 1/8-1/2"; spall <3", fault >1/4"	4	5	6
	High-Cracks > 1/2"; spall >3", fault >1/4"	7	8	9

Joint Seal Damage

Extent (%joints)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low <10% joint length	1	2	3
	Med 10-50% joint length	4	5	6
	High >50% joint length	7	8	9

Faulting

Extent (Length)				
No Defects	Low <10%	Med 10-30%	High >30%	
Severity	Low < 1/2"	1	2	3
	Med 1/2-1"	4	5	6
	High > 1"	7	8	9

Patch Deterioration

Extent (Area)				
No Defects	Low <10%	Med 10-30%	High >30%	
Severity	Low-no fault, no settle at perimeter	1	2	3
	Med-fault & settle <1/4" at perimeter	4	5	6
	High-fault & settle >1/4" at perimeter, cracked patch	7	8	9

Corner Breaks

Extent (% of slabs)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low-corner cracks, no spalling or faulting	1	2	3
	Med-crack slightly spalled & faulted <1/4"	4	5	6
	High-crack highly spalled & faulted >1/4"	7	8	9

Longitudinal Cracks

Extent (% slabs)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low-Cracks < 1/8"; no spalling/faulting	1	2	3
	Med-Cracks 1/8-1/2"; spall <3", fault >1/2"	4	5	6
	High-Cracks > 1/2"; spall >3", fault >1/2"	7	8	9

Map Cracks

Extent (Area)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low-small connected cracks, no spalling	1	2	3
	Med-connected cracks, no spalling	4	5	6
	High-large connected cracks with surface spalling	7	8	9

Deficiency Ratings With Associated Remaining Service Life

Asphalt Rating Sheet

Fatigue Cracking		Edge Cracking		Transverse Cracking		Utility Cuts	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20	0	20	0	20
1	10	1	12	1	14	1	14
2	8	2	10	2	12	2	12
3	6	3	8	3	10	3	10
4	8	4	10	4	12	4	12
5	6	5	8	5	10	5	10
6	4	6	6	6	8	6	8
7	6	7	8	7	10	7	10
8	2	8	6	8	6	8	6
9	0	9	4	9	2	9	2

Longitudinal Cracking		Block Cracking		Drainage/Roughness/Rutting	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20	0	20
1	14	1	12	1	16
2	12	2	10	2	10
3	10	3	8	3	4
4	12	4	10		
5	10	5	8		
6	8	6	6		
7	10	7	12		
8	8	8	6		
9	6	9	2		

Concrete Rating Sheet

Spalling		Broken Slabs		Transverse Cracks	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20	0	20
1	15	1	15	1	18
2	12	2	12	2	15
3	10	3	10	3	12
4	12	4	12	4	15
5	10	5	10	5	10
6	8	6	8	6	6
7	10	7	10	7	10
8	6	8	6	8	4
9	0	9	0	9	0

Joint Seal Damage		Faulting		Patch Deterioration	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20	0	18
1	16	1	15	1	16
2	14	2	12	2	14
3	12	3	10	3	12
4	14	4	12	4	12
5	10	5	8	5	10
6	8	6	6	6	8
7	12	7	10	7	10
8	8	8	4	8	6
9	6	9	0	9	0

Corner Breaks		Longitudinal Cracks		Map Cracks	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	18	0	20	0	20
1	16	1	18	1	18
2	14	2	15	2	15
3	12	3	12	3	12
4	12	4	15	4	12
5	10	5	10	5	10
6	8	6	6	6	6
7	10	7	10	7	10
8	6	8	4	8	4
9	0	9	0	9	0

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE IN YEARS (Asphalt & Concrete Roads)

RSL	FAILED 0	POOR 1 - 6	FAIR 7 - 12	GOOD 13 - 18	EXCELLENT 19 - 20
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Deficiency Ratings With Associated Remaining Service Life

Native Primitive Improved Rating Sheet

Cross Section		Rutting		Roadside Drainage	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	10	0	10	0	10
1	7	1	9	1	8
2	5	2	7	2	4
3	0	3	5	3	0
		4	7		
		5	4		
		6	3		
		7	4		
		8	2		
		9	0		

Potholes		Dust		Corrugations	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	10	0	10	0	10
1	9	1	8	1	9
2	7	2	6	2	7
3	5	3	2	3	7
4	7			4	6
5	4			5	5
6	3			6	5
7	4			7	4
8	2			8	3
9	0			9	0

Gravel Rating Sheet

Cross Section		Rutting		Roadside Drainage	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	10	0	10	0	10
1	7	1	9	1	8
2	5	2	7	2	4
3	0	3	5	3	0
		4	7		
		5	4		
		6	3		
		7	4		
		8	2		
		9	0		

Potholes		Dust		Corrugations	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	10	0	10	0	10
1	9	1	8	1	9
2	7	2	6	2	7
3	5	3	2	3	7
4	7			4	6
5	4			5	5
6	3			6	5
7	4			7	4
8	2			8	3
9	0			9	0

Loose Aggregate	
Distress Rating	Remaining Service Life
0	10
1	9
2	8
3	7
4	8
5	7
6	6
7	5
8	3
9	0

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE IN YEARS (Gravel & Native Roads)

RSL	FAILED	POOR	FAIR	GOOD	EXCELLENT
	0	1 - 2	3 - 4	5 - 7	8 - 10